

Narcissism and Romantic Relationship: The Mediating Role of Perception Discrepancy

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Abstract

The main purposes of this research are: a) to examine whether people's narcissism is related to their partners' relationship satisfaction and b) whether the link between narcissism and partner's satisfaction can be explained by the discrepancy in narcissists' perception about various aspects of their relationship. 150 (75 pairs romantic partner) university students from different universities in Hong Kong were conveniently invited to complete a password-protected online questionnaire. Their levels of narcissism, perception discrepancies for positive events and negative events, relationship satisfaction, and self-esteem were measured. It was found that narcissists have more times of romantic relationship and short relationship duration. Narcissists' partners were found less satisfied with their relationship. Bootstrapping mediation analysis controlling for self-esteem, age, and education background indicated that perception discrepancies for positive events mediated the relationship between narcissism and partner's relationship satisfaction while perception discrepancies for negative events did not. The current findings show that narcissists possessed large perception discrepancies in evaluating their own feelings and their partners'. Such discrepancies help explain why people's narcissism reduces the relationship satisfaction of their partners. The implications for personality and social psychology research and practice are discussed.

Introduction

Narcissus was a character of ancient Greeks myth. He was handsome and attractive. He saw himself as one of the most handsome man. However, he refused different potential romantic partners. Echo was one of his admirers whose heart had been broken by Narcissus. She showed herself to Narcissus and embraced him when he was hunting. Unfortunately, Narcissus pushed her away and told her to disappear. Narcissus kept searching the best partner until he fell in love with his own reflection in the water.

This myth interestingly elicited the focus of this research, narcissism and romantic relationship. The myth showed that Narcissus was self-centered and he ignored others' perspectives. He never considered the possibilities of a man who may be more handsome than him, how others thought about him and how the potential partners loved him. The myth also showed a poor romantic relationship satisfaction of Narcissus as he unexpectedly fell in love with an unreal image of himself.

Encountering people like Narcissus is common nowadays. However, the question was did Narcissism lead to poor romantic relationship satisfaction? How narcissism related to their thoughts in their love perceptions which may further have effects on relationship satisfaction?

The goal of this research was to extend the investigation of narcissism and romantic relationship. Although there were rich researches examined the relationship between narcissism and romantic relationships, few of them focused on how they behaved and thought in their daily life (Baumeister *et al.* 2007). Moreover, there were rare if any researches directly investigated the linkage of narcissism and romantic relationship satisfaction. Therefore, the main purpose of this research was going to examine the relationship between narcissism and relationship satisfaction with the

effects of their dating perceptions.

Literature Review

Narcissism

Narcissism was a personality construct. From the clinical point of view, narcissism was considered as a personality disorder, that is, narcissistic personality disorder (NPD) (American Psychiatric Association 2000). According to this manual, people with NPD might have grandiose self-concept. They might seek admiration and lacked empathy. Some of the characteristics of NPD were extended to normal population as a narcissism personality in a continuous degree as a spectrum (Raskin and Hall 1979, Raskin and Terry 1988).

Generally, people high in narcissism (narcissist) possessed an overly positive self-concept and inflated self-beliefs (Rose 2002), as well as egotism (Morf and Rhodewalt 2001). For example, they believed that they were unique (Emmons 1984), more intelligent and attractive than others (Gabriel *et al.* 1994). They also had inflated prediction of own performance (Farwell and Wohlwend-Lloyd 1998) as well as reported more knowledge than they actually have (Paulhus *et al.* 2003). In addition, they also overestimated their future grades (Farwell and Wohlwend-Lloyd 1998). Narcissists also reported to be overconfident in their abilities (Campbell *et al.* 2004) even though they performed the same task badly on previous 100 trials.

However, if the grandiose self-beliefs of narcissists were challenged by others, they might show extreme reactions, for examples, hostility and aggression (Bushman and Baumeister 2002, Reidy *et al.* 2008). Therefore, some researches showed that narcissism was related to spouse-abuse recidivism (Hamberger and Hastings 1990), domestic violence (Simmons *et al.* 2005) and courtship violence (Ryan *et al.* 2008). Moreover, narcissism was one of the explanations of date rape (Baumeister *et al.* 2002) because narcissism was associated with higher acceptance of rape myths and higher enjoyment of watching films that related to rape (Bushman *et al.* 2003).

Narcissists were self-focus rather than focused on others (Emmons 1987, Raskin and Shaw 1988). For instance, they lacked empathy, agreeableness and communion (Watson *et al.* 1984, Bradlee and Emmons 1992, Rhodewalt and Morf 1995). They were also more likely to use the first person pronoun “I” in unstructured and unrehearsed speech (Raskin and Shaw 1988). Interestingly, narcissists were associated with posting photos, describing themselves in a self-promoting and sexual manner in social websites, for instance, Facebook (Buffardi and Campbell 2008).

Narcissists were interested in self-enhancing, bolstering their positive self-views and maintaining self-esteem (Morf and Rhodewalt 2001). They strived to gain attention (Buss and Chiodo 1991) and to satisfy their need for power (Carroll 1987). They possessed self-serving bias (Rhodewalt and Morf 1998, Campbell *et al.* 2000). This was the tendency to simply take credit for others' success and to blame others for failure. They wanted to associate with people with higher social status (Campbell 1999). In order to maintain their smart image, they carried out more extraverted behaviors and more disagreeable behaviors (McCullough *et al.* 2003, Foster *et al.* 2009). Narcissists were also related to buying expensive clothing, appearance focusing, and for female, using more cosmetic products (Vazire *et al.* 2008). They also sought admiration by talking loudly and showing off their money to impress others (Buss and Chiodo 1991).

Narcissism was also related to impulsivity. Narcissists were inclined to engage in behaviors which involved short-term rewards but long-term lost (Vazire and Funder

2006). They tended to experience sensation seeking and reward sensitivity (Emmons 1991, Rose and Campbell 2004). Therefore, narcissists were more likely engaged to, for instances, skipping classes (Vazire and Funder 2006), gambling, greater risk taking (Breen and Zuckerman 1999, Coventry and Constable 1999, Miller *et al.* 2009) and alcohol drinking (Lyvers *et al.* 2009, Wray *et al.* 2011). Narcissism also associated with traffic violation (Diaz 2002, Castella and Perez 2003) as sensitivity to reward was a stronger determinant in encouraging violation of the rules than sensitivity to punishment in discouraging people to violate the rules (Castella and Perez 2003). Impulsive people were less able to control the use of internet, which made them using internet compulsively (Meerkerk *et al.* 2010). Narcissism was also associated with lacking of guilt that explained academic cheating (Campbell *et al.* 2004, DeAndrea *et al.* 2009).

Narcissism and Romantic Relationship

Psychodynamic approach offered some explanations of narcissism and romantic relationship. Freud (1957) proposed a model that distinguished anaclitic and narcissistic individuals. People who were anaclitic directed their love outward to other people. In contrast, people who were narcissistic turned their love toward themselves. However, the model of Freud was not specific enough to explain narcissism. Fortunately, Kernberg (1975) altered and elaborated further about psychodynamic explanations of narcissism and romantic relationship. He theorized that narcissists experienced a childhood which lacked adequate love from a caregiver, especially before age 3. Narcissism was a kind of defense against the aversive feelings of loss and abandonment. Narcissism was carried to adulthood and close relationships. In addition, Kohut (1977) proposed a different view of narcissism. He indicated that narcissism was maintained through mirroring and idealization. Mirroring was the display of love by their parents. Idealization was the belief of the child that they considered their parents as a perfect people and superman. Kohut (1977) pointed out that mirroring and idealization might fade when children grew up. Otherwise, individuals might maintain a narcissism personality.

The relationship of narcissism and romantic relationship had also been investigated in the previous researches. Narcissism was associated with lack of empathy (Emmons 1987) and less perspective taking (Watson *et al.* 1984). They seemed lack concern of others and found it difficult to understand the intentions, perspectives and thoughts of others (Watson *et al.* 1992). Narcissists also tended to diminish the need for intimacy (Carroll 1987). As mentioned above, narcissism was negatively correlated with agreeableness (Rhodewalt and Morf 1995). They always argue with their partner.

Narcissism was linked with ludus love style which was a kind of game-playing love style (Campbell and Foster 2002). Narcissists reported a game-playing approach to love. In the same research, narcissists reported a more pragmatic and selfish approach to romantic relationship. They reported less selfless-love in romantic relationship (Campbell 1999). They also tended to perceive of other alternative potential romantic partners (Campbell and Foster 2002) and to flirt with people other than their partner (Campbell and Foster 2002). In addition, narcissism was related to lower commitment and less accommodation in romantic relationship (Campbell and Foster 2002). The reduction in accommodation was mediated by low commitment (Campbell and Foster 2002). Moreover, the link of narcissism and commitment was mediated by perception and attention of other alternative potential romantic partners. Potential explanations were narcissists' high sensation seeking and high reward

sensitivity as mentioned above (Emmons 1991). This phenomenon was similar to the ancient Greek myth of Narcissus. Narcissists sought new partners who were high in status (Campbell 1999) and people who identified and admired them but not care them (Campbell 1999). Furthermore, choosing among different positive characteristics, narcissists not only rated themselves as superior to their partner but also not rated their partner as better than others (Campbell *et al.* 2002). They sometimes tended to derogate their partner to maintain self-esteem (John and Robins 1994).

On the contrary, narcissism might have some positive effects on romantic relationship (Paulhus 1998). Narcissists were considered funny, entertaining, not boring (Paulhus 1998), energetic (Raskin and Terry 1988) and socially confident (Watson and Biderman 1994). People also considered that narcissists were more attractive (Holtzman and Strube 2010). They often idealized their partner at the beginning of the relationship (Masterson 1988). Narcissists compared with non-narcissist reported less romantic relationship dysfunction, at least in the short term (Campbell *et al.* 2005).

Romantic relationship satisfaction was an important part of individuals' life satisfaction. There were different theories focusing on romantic relationship satisfaction. The most common one was the triangular love theory which composed of commitment, intimacy and love (Sternberg 1986). Fletcher, Simpson and Thomas (2000) reviewed and identified six constructs that represent distinct components of romantic relationship quality. They were satisfaction (Hendrick 1988), commitment (Lund 1985, Adams and Jones 1997), trust (Boon and Holmes 1990), closeness or intimacy (Sternberg 1986, Aron *et al.* 1992), passion (Sternberg, 1986, Aron and Westbay 1996), and love (Fehr and Russell 1991).

As I mentioned above, during the beginning of a romantic relationship, narcissists were considered funny, entertaining, attractive, not boring (Paulhus, 1998, Holtzman and Strube 2010) energetic (Raskin and Terry 1988) and socially confident (Watson and Biderman 1994). Therefore, people might easily fall in love with narcissists. Moreover, narcissists idealized their partner at the beginning of the relationship (Masterson 1988).

On the contrary, narcissists might be confident, entertaining at first, but these characteristics faded over time as their grandiosity became significant (Paulhu 1998). In addition, narcissists thought that they were superior to their partner, so they were not likely to remain satisfied with their romantic partner (Van Lange and Rusbult 1995). Clinicians also reported that the idealization of partner claimed by narcissists rapidly faded in a short period of time. Narcissists were described as being more dishonest and deceptive than non-narcissists (Campbell *et al.* 2002). Same research suggested that people who dated with narcissists longer may gain insight into the personalities of narcissists. Their original impression and perceptions toward narcissistic partners changed over the course of the relationship. Therefore, the effect of narcissism and duration of relationship on relationship satisfaction will be examined.

Narcissism and Discrepancies of Love Perception

Some of our friends sometimes complained that there was an imbalanced investment of the romantic relationship among them and their partners. They might also tell us that their partners sometimes treated them bad without apology. The discrepancy of love perception was one of the explanations to this phenomenon. In the following research, the association between narcissism and the discrepancies of love perception

will be examined.

There were four dimensions of love perception discrepancy. They were positive-passive, negative-passive, positive-active and negative-active dimension. Positive-passive dimension was the behaviors that partner treated the participant well, participant was the receiver. Negative-passive dimension was the behaviors that partner treated the participant bad. Positive-active dimension was the behaviors that participant treated their partner well, their partner was the receiver. Negative-active dimension was the behaviors that participant treated their partner bad. Discrepancy in positive dimension was the score difference between positive-passive dimension and positive-active dimension (Positive-active – positive-passive = positive love perception discrepancy). Discrepancy in negative dimension was the score difference between negative-passive dimension and negative-active dimension (Negative-active – negative-passive = negative love perception discrepancy).

Based on the characteristics of narcissist, for instances, their tendency to seek new partners (Campbell 1999), their inflated self-beliefs and inflated prediction of self-performance (Farwell and Wohlwend-Lloyd 1998, Rose, 2002), egotism and self-enhancing (Morf and Rhodewalt 2001), they might not feel so happy if their partner did something good to them in positive-passive dimension. They might think that this was the duty of their partner or they might think that they can find a new one to treat them well if their current one does not do so. They do not care. Also, they might estimate their partner would feel very happy if they did something good to partner in positive-active dimension because they might believe that they bestowed something to their partner. In addition, they might have inflated importance in their partner's mind. On the contrary in negative dimension, like partner rejected narcissists' request of a kiss, they might rate low in happiness in negative-passive dimension as they had inflated positive self-views, self-esteem and self-beliefs (Raskin *et al.* 1991, Morf and Rhodewalt 2001, Rose 2002) and they need for power (Carroll 1987). Rejection from their partner was violating their self-believe and their need for power. However, they might not guess that their partner would feel the same degree of sadness if they rejected the kiss request from their partner in negative-active dimension. Narcissists lacked perspective taking (Watson *et al.* 1984), empathy (Emmons 1987, Ruiz *et al.* 2001), concern of others, as well as understanding the perspectives and thoughts of others (Watson *et al.* 1992). They might not sense that their partner would feel sad if they did something bad to partner. Moreover, according to their self-inflated believe, they might imagine that even though they treated their partner bad, their partner should accept this because of their importance in partner's mind. Both positive love perception discrepancy and negative love perception discrepancy might result in poor love satisfaction.

Formulation of Hypotheses

Based on the above literature review, we hypothesize that both positive love perception discrepancy (Hypothesis 1) and negative love perception discrepancy (Hypothesis 2) would mediate the relationship between narcissism and relationship satisfaction. That is people who have higher degree in narcissism would have higher love perception discrepancy, which in turn would lead to lower degree of relationship satisfaction (see Figure 1). Moreover, based on the above literatures, we also hypothesize that people high in narcissism have more romantic relationships before (hypothesis 3) and shorter in their longest romantic relationship in their life (hypothesis 4).

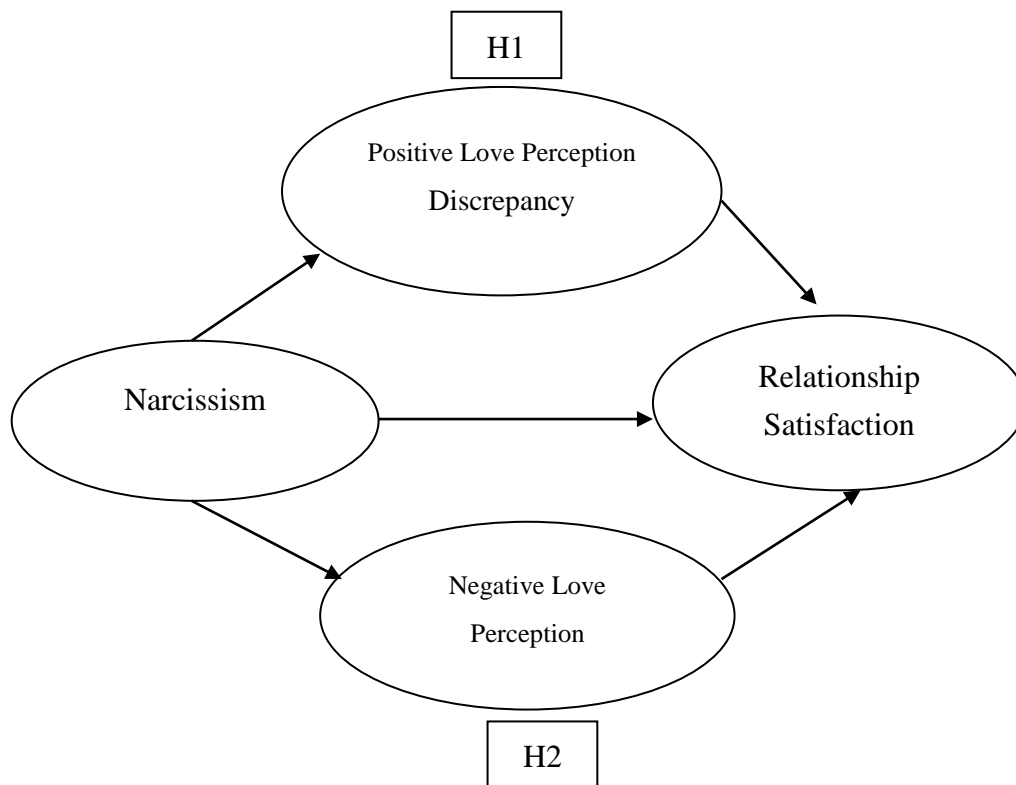


Figure 1. Conceptual framework of hypotheses 1 and 2.

Methodology

Participants

As the target samples were college students, 165 participants were recruited from eight universities in Hong Kong. However, 4 of them were homosexual and 11 of them did not have their partner to pair. In order to minimize the confounding effect, those 15 sets of data were eliminated. Therefore, 150 participants (75 women and 75 men, which are 75 pairs of romantic partners) who were in a romantic relationship were used for our analyses. The mean age of the participants was 23.17 (SD= 2.28, range from 19 to 34). All of them were either undergraduate or postgraduate students. 119 of them were studying bachelor degree. 23 of them were master student. 8 of them were studying doctoral degree. All participants were Chinese with different religious belief (90 with no religious belief, 20 were Buddhist, 1 was Taoist, 30 were Christian and 9 were Catholic). For their family situation, 46 of them were last born. 70 and 34 participants were not last born and only child in their family respectively. 44 out of 150 indicated that their relationship status was in “early stage” while 99 and 7 of them were in “seriously” and “engaged” stage respectively. The relationship statuses were the combination of the levels of mate selection of Bailey and Kelly (1984) and Krain (1975). The average relationship length with current partner was 20.32 months (SD= 20.22, range from 1 to 84). The mean times of previous romantic relationship excluding the current one was 2.74 (SD= 2.95, range from 0 to 17). The average longest relationship is 29.82 months (SD= 21.96, range from 1 to 84). One participant entered nonsense number of times of previous romantic relationship.

The Research Ethics Sub-committee of the College of Liberal Arts and Social Sciences (CLASS) approved the present study.

Procedures

Participants were first conveniently recruited in academic buildings of different universities from 12th January 2012 to 12th February 2012. The requirements of the participants were currently a university student and currently in a romantic relationship. If they met the requirements and agreed to participate, they were given a very short introduction of the study and asked to go to either www.mysurvey.tw/s/FB4hsH45 or www.mysurvey.tw/s/ba94a2r6 to finish the web-based questionnaire. They were reminded to invite their partner to finish the questionnaire as the design of this research needed to pair them up. In order to increase the sample size, they were also asked to invite their friends who met the requirements of this study to finish the on-line questionnaire. The reason for creating two identical on-line questionnaires was because of the maximum participant limit of a free user account for online questionnaire. A password (loveyou) was required to enter before starting to do the questionnaire because the prevention of other unqualified or uninvited people to do the questionnaire was ensured. Only who are qualified got the password. After entering the password, participants were informed by the informed consent form on the first page. They chose either to continue or to quit the study. They were also asked to contact me if they had any inquires or needed to have an explanation of the study. After nearly two months of data collection, data were downloaded on 5th March, 2010 as a MS Excel file and transferred to SPSS file for further analyses.

Materials

The online questionnaire was written in traditional Chinese. Original English items and instructions were translated into traditional Chinese by back-translation to ensure the validity and consistency with original meaning.

The first scale was the 16-items forced-choice Narcissistic Personality Inventory (Ames *et al.* 2006). The items of NPI-16 were drawn from NPI-40 to create a shorter and unidirectional measure. NPI-16 is parallel to NPI-40. Therefore, NPI-16 had remarkable internal, face, discriminant and predictive validity that it can be served as an alternative measure of narcissism. Participants were required to choose, for example, either “I like to be the center of attention.” or “I prefer to blend in with the crowd.” The score is either 0 or 1 for each question. The total mark of NPI-16 is 16. In our study, Chinese version of NPI-16 processed good internal consistency (Cronbach’s Alpha=.70). The mean score of NPI among 150 participants was 5.19, range from 0 to 16 in our study.

Relationship Assessment Scale (RAS) was the second scale which developed by Hendrick (1988). This was a brief, psychometrically-sound self-report measure to assess relationship satisfaction. RAS initially created as a brief measure of quality of marriage and then adapted for non-marital, romantic relationships. RAS contained 7 items that scored on 5-point Likert scale and ranged from 1 (lowest satisfaction) to 5 (highest satisfaction). Highest score of the scale was 35. Sample questions were “How well does your partner meet your needs” and “How much do you love your partner”. The original internal consistency was .86. In present study, we translated RAS into Chinese with good internal consistency (Cronbach’s Alpha= .93). The mean score among participants was 26.08, range from 7 to 35. RAS was swapped between participant and their partner before analysis. That is, the RAS in participants’ data set was swapped with the RAS in partners’ data set. The reason was to minimize the bias as relationship satisfaction is a subjective domain. Moreover, most studies relied on

self-report. The limitation of measures reported by narcissists was the penchant for deceiving both themselves and others (Campbell *et al.* 2002). Swapping RAS scale might lead to a more objective result.

The third scale is Love Perception Discrepancy Scale which designed by us that not to measure complicated psychological construct but to measure the self-report dating perceptions in Chinese language. The scale contained four parts, positive-passive dimension (Cronbach's Alpha = .86, "Partner actively kisses you."), negative-passive dimension (Cronbach's Alpha = .79, "Partner ignores your unhappiness."), positive-active dimension (Cronbach's Alpha = .83, "You actively kiss your partner.") and negative-active dimension (Cronbach's Alpha = .80, "You ignore partner's unhappiness."). Each dimension was a 6-item inventory with 7-point scales, totally with 24 questions. Moreover, for each dimension, two questions were related to physical characteristic while another four were related to material and emotional.

Last scale was the 10-item Rosenberg Self-Esteem Inventory (RSE) (Rosenberg 1965). This scale was attempted to obtain a score of global self-esteem. Participants were required to respond to items like "On the whole, I am satisfied with myself." on a 4-point scale with 1 (Strongly Agree) and 4 (Strongly Disagree). The lower the mark, the higher the self-esteem was. In our study, we adopted the Chinese version of RSE which developed by Yueng (1998). The internal consistency was good in our study with Cronbach's Alpha = .84. Narcissism and self-esteem continuously drew the attention of social and personality psychologists. Even though they were partially overlapping, they were still two distinctive constructs with differences (Campbell *et al.* 2002). Both narcissists and high self-esteem (HSE) people had positive self-views but each is associated with different domains of the self (Campbell *et al.* 2002). On the basis of the similar but distinctive properties of these two constructs, Campbell *et al.* (2002) attempted to control the effect of self-esteem in their analysis of the data. In our research, the effect of self-esteem was controlled in our data analysis.

Demographic Information was measured by asking the gender, date of birth, first two letters of surname, education background and religious belief of the participant. Date of birth and first two letters of surname were needed to pair up partners and participants. In order to control some potential confounding variable, relationship stage (Bailey and Kelly 1984, Krain 1975) and birth order (Eyrin and Sobelman 1996) which may have an effect on narcissism were also asked in online questionnaire. For the sake of hypotheses testing, current relationship duration, longest relationship duration and times of previous relationship were also asked.

Results

Data-Analytic Strategies

Bootstrapping was needed to test the mediating effect of positive and negative love perception discrepancy in hypothesis 1 and 2. Hierarchical multiple regression was used to analyze hypotheses 3 and 4.

Descriptive Statistic and Preliminary Analyses

Table 1 presents the means, standard deviations and frequencies of different measures by gender. For the measure religious belief, in order to prevent small sample size as mentioned in participant, different religious beliefs were combined into a group called possess religious belief. People with no religious views classified as another group.

Master and doctoral was also combined into postgraduate in education background.

Table 1. Means, standard deviations (SD) and frequencies(F) of the measures by gender.

	Male (n=75)			Female (n=75)			Overall (N=150)		
	Mean	SD	F	Mean	SD	F	Mean	SD	F
Age	23.47	2.3		22.87	2.24		23.17	2.28	
Birth order									
Only child			17			17			34
Last born			24			22			46
Non-last born			34			36			70
Relationship Stage									
Early			25			19			44
Seriously			47			52			99
Engaged			3			4			7
Religious belief									
None			45			45			90
Possess			30			30			60
Education background									
Undergraduate			57			62			119
Postgraduate			18			13			31
Relationship duration	20.32	20.29		20.32	20.3		20.32	20.22	
Times of previous relationship	3.12	3.03		2.37	2.85		2.74	2.95	
Longest relationship	27.23	20.5		32.41	23		29.82	21.86	
NPI total score	5.57	3.28		4.81	2.99		5.19	3.15	
NPI group									
Low			23			29			52
Medium			26			26			52
High			26			20			46
RAS total score	26.52	5.42		25.64	6.22		26.08	5.83	
RSE total score	21.75	3.85		21.85	4.52		21.8	4.19	
Positive discrepancy	.88	4.53		.20	4.46		.54	4.50	
Negative discrepancy	-.35	7.13		.75	6.09		.20	6.63	

Note: NPI= Narcissistic Personality Inventory; RAS = Relationship Assessment Scale; RSE = Rosenberg Self-esteem Scale

Gender did not show significant effect on relationship duration ($t(148) = 0, p > .05$), previous relationship times ($t(147) = 1.55, p > .05$), longest relationship duration ($t(148) = -1.46, p > .05$), total NPI score ($t(148) = 1.48, p > .05$), total RAS score ($t(148) = .92, p > .05$), total RSE score ($t(148) = -.16, p > .05$), positive discrepancy ($t(148) = .93, p > .05$) and negative discrepancy ($t(148) = -1.01, p > .05$).

Eyrin & Sobelman (1996) found that birth order had an effect on narcissism. Therefore, one-way ANOVA was conducted in this study to see the effect of birth

order. Result showed that birth order did not show significant effect on relationship duration ($F(2,147) = .20, p > .05$), longest relationship duration ($F(2,147) = 1.06, p > .05$), total NPI score ($F(2,147) = .45, p > .05$), total RAS score ($F(2,147) = 2.81, p > .05$), total RSE score ($F(2,147) = 1.04, p > .05$) and negative discrepancy ($F(2,147) = 2.91, p > .05$). However, significant effect was shown in positive discrepancy ($F(2,147) = 4.96, p < .05$) and previous relationship times ($F(2,147) = 6.74, p < .05$).

Religious views did not show significant effect on relationship duration ($t(148) = .02, p > .05$), previous relationship times ($t(147) = -1.73, p > .05$), longest relationship duration ($t(148) = 1.62, p > .05$), total RAS score ($t(148) = 1.40, p > .05$), total RSE score ($t(148) = 1.93, p > .05$), positive discrepancy ($t(148) = -1.85, p > .05$). Significant effects were found in total NPI score ($t(148) = -3.67, p < .001$) and negative discrepancy ($t(148) = -3.10, p < .05$).

Table 2 presents the correlation among different measures. Total NPI score was positively correlated with positive discrepancy, negative discrepancy and times of previous relationships. It was negatively correlated with RAS score. Weak negative correlation between NPI score and RSE score was observed. Positive perception was positively correlated with negative perception discrepancy and times of previous relationships. However, it negatively correlated with total RAS score, relationship duration and longest relationship. Negative discrepancy negatively correlated with total RAS score. Total RAS score positive correlated with relationship duration and longest relationship while it negatively correlated with times of previous relationships.

Table 2. Correlations among measures.

	1	2	3	4	5	6	7	8
1. Total NPI score	-	-.18*	.40**	.31**	-.33**	-.07	.25**	-.16*
2. Total RSE score		-	.08	.15	-.13	-.20*	.02	-.15
3. Positive discrepancy			-	-.50**	-.39**	-.21**	.18*	-.22**
4. Negative discrepancy				-	-.33**	-.07	.09	-.01
5. Total RAS score					-	.29**	-.55**	.32**
6. Relationship duration						-	-.22**	.66**
7. Times of previous relationship							-	-.25**
8. Longest relationship duration								-

Note: NPI= Narcissistic Personality Inventory; RAS= Relationship Assessment Sale; RSE= Rosenberg Self-Esteem Scale

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

Bootstrapping Mediation

The primary goal of this study was to examine whether positive love perception discrepancy and negative love perception discrepancy would mediate the effects of narcissism on relationship satisfaction.

Based on the correlation table mentioned in preliminary analyses, the correlations between total NPI score, positive love perception discrepancy, negative love perception discrepancy and total RAS score were significant. Therefore, the confident to conduct mediation analyses had been met. Moreover, demographic variables of age, education background and total RSE score were entered as control variables in bootstrapping mediation.

Bootstrapping method was used in order to test mediation. 1000 bootstrap

resamples were applied to test the indirect effects of narcissism via the hypothesized mediators on relationship satisfaction (Preacher and Hayes 2008). According to Preacher and Hayes (2008), bootstrapping was a nonparametric method which computed an estimation of the indirect effect with a 95% confidence interval. When zero was not in the 95% confidence interval, the indirect effect was considered significantly different from zero at $p < .05$. As a result, mediation was occurred. In the analysis, narcissism was the IV, relationship satisfaction was the DV while positive love perception discrepancy and negative love perception discrepancy were potential mediators. True indirect effects for positive love perception discrepancy and negative love perception discrepancy were estimated to lie between $-.3412$ and $-.0440$, $-.2351$ and $.0310$ respectively. Because zero was not in the 95% confidence interval for positive love perception discrepancy only, thus the indirect effect was considered significantly different from zero at $p < .05$. Positive love perception discrepancy partially mediates the relationship between narcissism and relationship satisfaction, whereas negative love perception discrepancy did not.

Hypothesis 1 was supported as positive love perception discrepancy mediated the association between narcissism and relationship satisfaction. However, hypothesis 2 was not supported as negative love perception discrepancy did not show significant mediating effect on the relationship between narcissism and relationship satisfaction (see Table 3 and Figure 2).

Table 3. Summary of mediation result for two mediators (M) with narcissism as IV and relationship satisfaction as DV.

Effect of IV on M	Mediator	
	Positive	Negative
Coefficient	.61	.73
SE	.11	.16
t	5.60	4.47
p	.00	.00
Effect of M on DV		
Coefficient	-.28	-.09
SE	.11	.08
t	-2.47	-1.16
p	.01	.25
Total effect of IV on DV		
Coefficient	-.66	
SE	.14	
t	-4.71	
p	0.00	

Note. IV= Independent Variable; DV= Dependent Variable; M= Mediator; SE= Standard Error

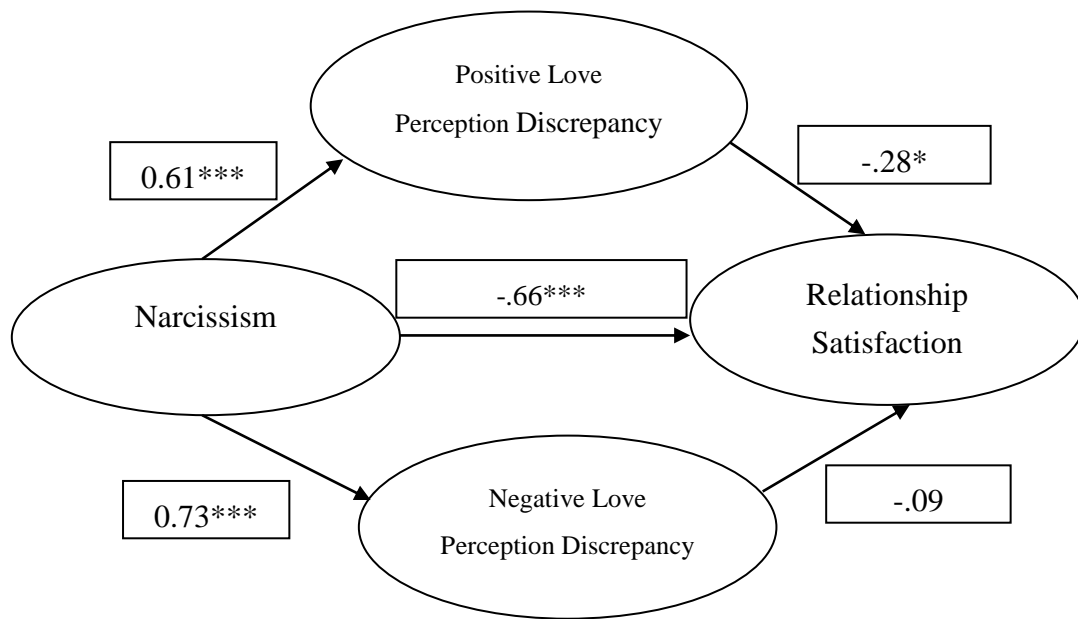


Figure 2. Mediation model of relationship among narcissism, positive and negative perception discrepancy and relationship satisfaction. Values presented are standardized regression coefficients.

* $p < .05$; ** $p < .01$; *** $p < .001$

Hierarchical Multiple Regressions

Table 4 presents the statistic of the hierarchical multiple regression of narcissism on times of previous relationship and longest relationship. Similar in the bootstrapping mediation analysis, demographic variables of age, education background and total RSE score were entered as control variables in bootstrapping mediation. Resulted showed that people high in narcissism had more times of previous relationship. Thus hypothesis 3 was supported. In addition, people high in narcissism had shorter longest relationship. As a result, hypothesis 4 was supported.

Discussion

The main purpose of this study was to investigate the role of love perception discrepancy in the relationship between narcissism and relationship satisfaction among university student while different potential confounding variables were controlled. Apart from this, effect of age, birth order, religious belief and narcissism on different measures were also examined in this study.

The effects of gender and birth order on narcissism were analyzed in preliminary analysis. These two analyses were not hypothesized in this study. Firstly, the reason to test gender effect was that previous studies showed a confusing effect of gender on narcissism. Some of them showed significant effect of gender (Joubert 1989, Narayan 1990), but some of them did not (Campbell and Foster 2002, Meerkerk *et al.* 2010). Therefore, the effect of gender was necessarily discovered in this study. Similar to gender, birth order showed significant effects on narcissism in a study (Eyrin and Sobelman 1996). However, birth order did not related to narcissism in current study. One explanation may be that birth order was related to narcissism when analyzing together with other variables to generate interaction effect (Joubert 1989, Narayan 1990).

Table 4. Predictive power of narcissism on variables.

DV	Beta	t	p
Times of previous relationship			
Block 1			
Age	-.12	-1.31	.19
EduBG	.08	.84	.41
Total RSE Score	.01	.15	.88
Block 2			
Age	-.10	-1.09	.28
EduBG	.05	.57	.57
Total RSE Score	.06	.74	.46
Total NPI Score	.26	3.11	.00
Longest Relationship			
Block 1			
Age	.10	1.13	.26
EduBG	.07	.84	.40
Total RSE Score	-.13	-1.64	.10
Block 2			
Age	.08	.94	.35
EduBG	.09	1.07	.29
Total RSE Score	-.17	-2.08	.04
Total NPI Score	-.19	-2.39	.02

Note: EduBG= Education Background; RSE = Self-esteem score; NPI= Narcissistic Personaliy Inventory

Bootstrapping mediation analysis supported hypothesis 1 as positive love perception discrepancy mediated the relationship between narcissism and relationship satisfaction. However, hypothesis was not supported as negative love perception discrepancy was not a mediator in this relationship.

The result of effect of IV to mediators from bootstrapping showed that narcissism significantly predicted positive love perception discrepancy and negative love perception discrepancy, which consisted with previous findings. Narcissists tended to seek new partners (Campbell 1999). They were also egotism (Morf *et al.* 2000) and self-enhancing (Morf and Rhodewalt 2001). Their self-beliefs and prediction of self-performance were inflated (Farwell and Wohlwend-Lloyd 1998, Rose 2002). Therefore, they would magnify their importance that partner should feel happy when good things were given to partner. Also, they would look down upon those good things provided by their partner as they may think that this was the duty of their partner to treat them well. Narcissists had higher negative love perception discrepancy also consisted with previous findings. As mentioned before, they possessed positive self-views, self-esteem and self-beliefs (Raskin *et al.* 1991, Morf and Rhodewalt 2001, Rose, 2002) and they had a demand for power (Carroll 1987). Moreover, according to John and Robins (1994), people high in narcissism were more likely to manipulate others. Therefore, they often felt sad when partner treated them

bad. As people high in narcissism lacked perspective taking (Watson *et al.* 1984), empathy (Emmons 1987, Ruiz *et al.* 2001), concern of others as well as understanding the perspectives and thoughts of others (Watson *et al.* 1992). They were also interpersonally exploitative and socially inconsiderate (Millon 1990). They just cannot imagine what their partner would feel if they treat their partner bad. Thus, they did not rate their partner feeling the same degree of sadness with them. Moreover, they possessed self-serving bias (Rhodewalt and Morf 1998, Campbell *et al.* 2000). They tended to take credit for others' good thing and blame others for failure. If partner treated them well, they took credit from partner and thought that the reason why partner treated them well was that they were important. Inversely, if partner treated them bad, they blamed their partner for ignorance. They would feel sadder if they thought that this was not their responsibility.

Once narcissist showed large positive and negative love perception discrepancy, their partner would feel very confusing as no matter how good they treated narcissist, narcissist just did not feel happy. Also, narcissists did not sense their sadness. Therefore narcissist often did something impolite and unexpected without considering the feeling of their partner. After a particular period of time, this situation may lead to imbalance of investment in a relationship as narcissist rarely treated their partner well and did not present them positive reinforcement, like happy smile or emotion when receiving present from partner. Relationship investment concepts, like cost and reward were significantly correlated with relationship satisfaction (Rusbult 1980, Kurdek 1991). Therefore, narcissists with large positive love perception discrepancy may have lower relationship investment and then lower relationship satisfaction.

However, for hypothesis 2, negative love perception discrepancy did not mediate the relationship between narcissism and relationship satisfaction. One of the explanations of the non-significant effect would be the differences of love style between Chinese culture and Western culture. Chinese culture was a collective culture while Western culture was individualistic. There were three principles which manifested in characteristics of Chinese love relationships. First, the nature of the self was related and embedded in a network of in-group members. Second, the role relationship was an important determinant and third, people emphasis on harmony (Gao *et al.* 1996). Chinese thought that they were a member of an in-group, for example, a family. In addition, Chinese people compared with other culture were believed more in yuan which was a philosophical view of personal relationship (Goodwin and Findlay 1997). They tried to believe that their romantic partner was already assigned by the mystery. Therefore, they might tolerate their partner in some extent in order to keep the relationship harmony. Therefore, they tolerated or ignored negative love perception discrepancy. They tolerated the bad things partner did to them. Thus, negative love perception discrepancy did not predict love satisfaction and mediated the relationship between narcissism and relationship satisfaction. Moreover, Chinese culture emphasized positive and harmony. People who focused on negative love perception discrepancy were faced to social condemnation. People tried to prevent this antisocial behavior (Wan *et al.* 2000).

Total effect of IV on DV in bootstrapping indicated that narcissism predicted relationship satisfaction. Narcissists lacked agreeableness and communion (Watson *et al.* 1984, Bradlee and Emmons 1992, Rhodewalt and Morg 1995). They tended to argue a lot with others. However, agreeableness was positively correlated with relationship satisfaction (White *et al.* 2004). One possible explanation was that narcissists were lacked agreeableness in their social life, therefore, associated with low relationship satisfaction. Another explanation was that narcissism was related to

extraversion (Holtzman *et al.* 2010, Ong *et al.* 2011). Extraversion was related to lower relationship satisfaction (Sabatelli *et al.* 1983). Thus, narcissists had lower relationship satisfaction.

Hypothesis 3 and 4 were supported. Result for hypothesis 3 showed that narcissists had more romantic relationship before the current one. Hypothesis 4 showed that people high in narcissism had shorter longest relationship duration. Narcissists engaged in behaviors which involve short-term rewards (Vazire and Funder 2006). They also tended to experience sensation seeking and reward sensitivity (Emmons 1991, Rose and Campbell 2004). Thus, they may easily bored by the current partner. They wanted new stimulations. Most importantly, narcissists were considered funny, entertaining and not boring (Paulhus 1998) as well as energetic (Raskin and Terry 1988) and socially confident (Watson and Biderman 1994). People also considered that narcissists were more attractive (Holtzman and Strube 2010). Therefore, they attracted many alternative partners. As they sought sensations and short-term rewards, they might easily start a new relationship and abandon the current partner. Therefore, this can explain why narcissists generally had more romantic relationship before and their longest relationship was shorter.

Implications

Although more and more studies focused on how an inflated personality can impact on interpersonal life. Few studies investigated how narcissists behave in everyday life (Baumeister *et al.* 2007). Moreover, there were rare if any researches directly investigated the linkage of narcissism and romantic relationship satisfaction. The present research added to these imitations by not only focusing on the linkage between narcissism and relationship satisfaction in a daily manner but also examining how daily love perception discrepancy would mediate the association between narcissism and relationship satisfaction. The findings of this study suggested that positive and negative love perception discrepancy mediated the relationship between narcissism and romantic relationship satisfaction.

Previous findings suggested males tended to possess more narcissistic characteristics in comparison to females (Joubert 1989, Narayan 1990). However, some did not (Campbell and Foster 2002, Meerkerk *et al.* 2010). The present study examined the effect of gender on narcissism and found no significant difference. It might reveal that even though male were more narcissistic than female in general situation, but the behaviors of narcissistic male and narcissistic female in romantic situation did not differ from each other.

Previous study claimed that one of the limitations of studying narcissism was overly relied on self-report (Campbell *et al.* 2002). Narcissist might bolster their self-image by perceiving themselves more positively than they were seen by others (John and Robins 1994). The present study improved the limitation by swapping the RAS scale within romantic pairs to make the result sound more objective and powerful. This study showed the importance of swapping scales if partners were included.

Relationship satisfaction was one of the popular topics. People were becoming more and more concern about their romantic relationship satisfaction as this was a very important aspect of human life. This study revealed a general concept to improve relationship satisfaction, which is to minimize positive love perception discrepancy in order to improve relationship satisfaction. For example, people should pay attention to the perception discrepancy if their partner treated them well and they treated their partner well. Moreover, as Narcissistic Personality Disorder was one of the

psychological disorders, Clinical Psychologists might gain insights from present study to help improving relationship satisfaction of the clients. In addition, Family Therapy, Interpersonal Therapy became popular. This study might also help Clinical Psychologists to conceptualize the content of the therapy.

Limitations and Further Studies

Further studies especially clinical journals and counseling journals might have a new concept to help people to improve their relationship satisfaction if they seek help.

The current findings also brought to mind the interest of perception discrepancy for further researches as most of previous findings were examined unidirectional perspectives of how participants felt about a particular situation. The present study also examined how participant guessed the feeling of others. The discrepancy of self-feeling and the guessed feeling might tell us a lot. Moreover, there should be uncountable concepts which discrepancy analysis can be applied in later on studies.

NPD were extended to normal population in a continuous degree as a spectrum (Raskin and Hall 1979, Raskin and Terry 1988). It means people range from child to elderly may possess a spectrum of narcissism. This concept revealed a limitation of this study which is the relatively small sample size. There were only 150, 75 pairs of participants included in this study. Moreover, all of them were university student. The generalizability and statistical power of this study were limited. However, this study was only an undergraduate thesis and conducted by a student. Therefore, further studies should increase the sample size as well as the diversity (e.g. different cultures, different occupations) of the samples if enough resources were available.

Relationship satisfaction and love perception discrepancy might vary time to time. This study only focused on a particular time. The research design of further studies should be a longitudinal or cross-sequential setting in order to find out how time may affect the relation between narcissism, love perception discrepancy and relationship satisfaction.

Further studies should also examine different potential mediators which may mediate the association of narcissism and relationship satisfaction. Because of the inconsistency with western studies, further studies should also investigate the effect of narcissism on relationship satisfaction in Chinese culture to see whether or not our findings were supported.

As the current scale which measures love perception discrepancy was designed not to measure psychological constructs. Therefore, there might be a need to develop a more sophisticated scale in order to measure a more complex construct of love perception discrepancy.

As result showed that narcissism significantly predicted the times of previous relationship and longest relationship, therefore further studies might consider to focus on issues of these relationships.

Conclusion

If the ending of the Greek myth of Narcissus changed, he did not fall in love with his own reflection. He can find his lover eventually. However, our findings would suggest that his relationship satisfaction would be lower as his positive love perception discrepancy was larger due to his narcissistic traits.

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References

- Adams, J. and Jones, W.H., 1997. The conceptualization of marital commitment: An integrative analysis. *Journal of Personality and Social Psychology*, 72, 1177-1196.
- American Psychiatric Association, 2000. *Diagnostic and Statistical Manual of Mental Disorders. Fourth Edition. Text Revision (DSM-IV-TR)*. Washington, DC: American Psychiatric Association.
- Ames, D.R., Rose, P., and Anderson, C.P., 2006. The NPI-16 as a short measure of narcissism. *Journal of Research in Personality*, 40, 440-450.
- Aron, A., Aron, E.N., and Smollan, D., 1992. Inclusion of other in the Self Scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, 63, 596-612.
- Aron, A. and Westbay, L., 1996. Dimensions of the prototype of love. *Journal of Personality and Social Psychology*, 70, 535-551.
- Bailey, R.C. and Kelly, M., 1984. Perceived physical attractiveness in early, steady and engaged daters. *Journal of Psychology*, 116, 39-43.
- Baron, R.M. and Kenny, D.A., 1986. The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173–1182.
- Baumeister, R.F., Vohs, K.D., and Funder, D.C., 2007. Psychology as the science of self-reports and finger movements: Whatever happened to actual behavior? *Perspectives on Psychological Science*, 2, 396–403.
- Bradlee, P.M. and Emmons, R.A., 1992. Locating narcissism within the interpersonal circumplex and the Five-Factor model. *Personality and Individual Differences*, 13, 821–830.
- Breen, R.B. and Zuckerman, M., 1999. Chasing in gambling behavior: Personality and cognitive determinants. *Personality and Individual Differences*, 27, 1097–1111.
- Boon, S. and Holmes, J.G., 1990. *Interpersonal trust, attachment, and emotion*. Paper presented at the International Conference of Personal Relationships, Oxford, England.
- Buffardi, L.E. and Campbell, W.K., 2008. Narcissism and social networking web sites. *Personality and Social Psychology Bulletin*, 34, 1303–1314.
- Bushman, B.J. and Baumeister, R.F., 2002. Does self-love or self-hate lead to violence? *Journal of Research in Personality*, 36, 543–545.
- Bushman, B.J., et al., 2003. Narcissism, sexual refusal, and aggression: testing a narcissistic reactance model of sexual coercion. *Journal of Personality and Social Psychology*, 84.
- Buss, D.M. and Chiodo, L.M., 1991. Narcissistic acts in everyday life. *Journal of Personality*, 59, 179, 215, 1027-1040.
- Campbell, W.K., 1999. Narcissism and romantic attraction. *Journal of Personality and Social Psychology*, 77, 1254–1270.
- Campbell, W.K., Finkel, E.J., and Foster, C.A., 2002. Does self-love lead to love for others? A story of narcissistic game playing. *Journal of Personality and Social Psychology*, 83, 340-354.
- Campbell, W.K. and Foster, C.A., 2002. Narcissism and commitment in romantic relationship: An investment model analysis, *Personality and social psychology bulletin*, 28, 484-495.
- Campbell, W.K., Foster, J.D., and Brunell, A.B., 2004. Running from shame or reveling in pride? Narcissism and the regulation of self-conscious emotions. *Psychological Inquiry*, 15, 150–153.
- Campbell, W.K., Rudich, E.A., and Sedikides, C., 2002. Narcissism, Self-Esteem, and the Positivity of Self-Views: Two Portraits of Self-Love. *Personality and Social Psychology Bulletin*, 28, 358-368.
- Campbell, W. K., et al., 2000. Narcissism and comparative self-enhancement strategies. *Journal of Research in Personality*, 34, 329–347.
- Carroll, L., 1987. A study of narcissism, affiliation, intimacy, and power motives among students in business administration. *Psychological Reports*, 61, 355–358.
- Catella, J. and Perez, J., 2004. Sensitivity to punishment and sensitivity to reward and traffic

- violations. *Accident Analysis and Prevention*, 36, 947-952.
- Coventry, K. R. and Constable, B., 1999. Physiological arousal and sensation-seeking in female fruit-machine gamblers. *Addiction*, 94, 425-430.
- DeAndrea, D.C., et al., 2009. The relationship between cheating behavior and sensation-seeking. *Personality and Individual Differences*, 47, 944-947.
- Diaz, E.M., 2002. Theory of planned behavior and pedestrians' intentions to violate traffic regulations. *Transportation Research*, 5, 169-175.
- Emmons, R. A., 1984. Factor analysis and construct validity of the narcissistic personality inventory. *Journal of Personality Assessment*, 48, 291-300.
- Emmons, R. A., 1987. Narcissism: Theory and measurement. *Journal of Personality and Social Psychology*, 52, 11-17.
- Emmons, R. A., 1991. Relationship between narcissism and sensation-seeking. *Journal of Social Behavior and Personality*, 6, 943-954.
- Eyring, W.E. and Sobelamn, S., 1996. Narcissism and birth order. *Psychological Reports*, 78, 403-406.
- Farwell, L. and Wohlwend-Lloyd, R., 1998. Narcissistic processes: Optimistic expectations, favorable self-evaluations, and self-enhancing attributions. *Journal of Personality*, 66, 65-83.
- Fehr, B. and Russell, J. A., 1991. The concept of love viewed from a prototype perspective. *Journal of Personality and Social Psychology*, 60, 425-438.
- Fletcher, G.J.O., et al., 2000. The Measurement of Perceived Relationship Quality Components: A Confirmatory Factor Analytic Approach. *Personality and Psychology Bulletin*, 26, 340.
- Foster, J. D., Misra, T. A., and Reidy, D. E., 2009. Narcissists are approach-oriented toward their money and their friends. *Journal of Research in Personality*, 43, 764-769.
- Freud, S., 1957. On narcissism: An introduction. In: J. Strachey, Eds. *The standard edition of the complete psychological works of Sigmund Freud*. London: Hogarth. (Original work published 1914), 14, 67-104.
- Gabriel, M. T., Critelli, J. W., and Ee, J. S., 1994. Narcissistic illusions in self-evaluations of intelligence and attractiveness. *Journal of Personality*, 62, 143-155.
- Gao, G., Ting-Toomey, S., and Gudykunst, W., 1996. Chinese communication processes. In: M. H. Bond, eds. *Handbook of Chinese psychology*. Hong Kong: Oxford University Press, 280-293.
- Goodwin, R. and Findlay, C., 1997. "We were just fate together"...Chinese love and the concept of yuan in England and Hong Kong. *Personal Relationships*, 4, 85-92.
- Hamberger, L.K. and Hastings, J., 1990. Recidivism following spouse abuse abatement counseling: treatment program implications. *Violence and Victims*, 5, 157-179.
- Hendrick, S.S., 1988. A generic measure of relationship satisfaction. *Journal of Marriage and Family*, 50, 93.
- Holtzman, N. S. and Strube, M. J., 2010. The intertwined evolution of narcissism and short-term mating: An emerging hypothesis. In: W. K. Campbell & J. D. Miller, eds. *The handbook of narcissism and narcissistic personality disorders: Theoretical approaches, empirical findings and Treatments*. Wiley.
- Holtzman, N. S., Vazire, S., and Meh, M.R., 2010. Sounds like a narcissist: Behavioral manifestations of narcissism in everyday life. *Journal of Research in Personality*, 44, 478-484.
- John, O.P. and Robins, R.W., 1994. Accuracy and Bias in Self-Perception: Individual Differences in Self-Enhancement and the Role of Narcissism. *Journal of Personality and Social Psychology*, 66, 206-219.
- Joubert, C.E., 1989. Birth order and narcissism. *Psychological reports*, 64, 721-722.
- Kernberg, O., 1975. *Borderline conditions and pathological narcissism*. New York: Jason Aronson.
- Kohut, H., 1977. *The restoration of self*. Madison, CT: International Universities Press.
- Krain, M., 1975. Communication among premarital couples at three stages of dating. *Journal of Marriage and the Family*, 37, 609-618.
- Kurdek, L.A., 1991. Correlates of relationship satisfaction in cohabiting gay and lesbian couples: Integration of contextual, investment, and problem-solving models. *Journal of Personality and Social Psychology*, 61, 910-922.
- Lund, M., 1985. The development of investment and commitment scales for predicting continuity of personal relationships. *Journal of Social and Personal Relationships*, 2, 3-23.

- Lyvers, M., *et al.*, 2009. Disinhibition and reward sensitivity in relation to alcohol consumption by university undergraduates. *Addiction Research and Theory*, 17, 668-677.
- Masterson, J. F., 1988. *The search for the real self*. New York: Free Press.
- McCullough, M. E., *et al.*, 2003. Narcissists as “victims”: The role of narcissism in the perception of transgressions. *Personality and Social Psychology Bulletin*, 29, 885–893.
- Meerkerk, G.J., *et al.*, 2010. Is compulsive internet use related to sensitivity to reward and punishment, and impulsivity. *Computers in human behaviors*, 26, 729-735.
- Miller, J. D., *et al.*, 2009. Examining the relations among narcissism, impulsivity, and self-defeating behaviors. *Journal of Personality*, 77, 761–794.
- Millon, T., 1990. The disorders of personality. In: L. A. Pervin, eds. *Handbook of personality: Theory and research*. New York: Guilford Press, 339-370.
- Morf, C. C. and Rhodewalt, F., 2001. Unraveling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological Inquiry*, 12, 177–196.
- Narayan, C., 1990. Birth order and narcissism. *Psychological Reports*, 67, 1184- 1186.
- Ong, E.Y.L., *et al.*, 2011. Narcissism, extraversion and adolescent self-presentation on facebook. *Personality and Individual Differences*, 50, 180-185.
- Paulhus, D. L., 1998. Interpersonal and intrapsychic adaptiveness of trait self-enhancement: A mixed blessing? *Journal of Personality and Social Psychology*, 74, 1197–1208.
- Paulhus, D. L., Harms, *et al.*, 2003. The over-claiming technique: Measuring selfenhancement independent of ability. *Journal of Personality and Social Psychology*, 84, 890–904.
- Preacher, K. J. and Hayes, A. F., 2008. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40, 879–891.
- Raskin, R. N. and Hall, C. S., 1979. A narcissistic personality inventory. *Psychological Reports*, 45, 590.
- Raskin, R. and Shaw, R., 1988. Narcissism and the use of personal pronouns. *Journal of Personality*, 56, 393–404.
- Raskin, R. N. and Terry, H., 1988. A principal components analysis of the Narcissistic Personality Inventory and further evidence of its construct validity. *Journal of Personality and Social Psychology*, 54, 890–902.
- Reidy, D. E., *et al.*, 2008. Effects of narcissistic entitlement and exploitativeness on human physical aggression. *Personality and Individual Differences*, 44, 865–875.
- Rose, P., 2002. The happy and unhappy faces of narcissism. *Personality and individual differences*, 33, 379–392.
- Rose, P. and Campbell, W. K., 2004. In: Greatness feels good: A telic model of narcissism and subjective well-being. In S. P. Shohov, eds. *Advances in psychology research*. Huntington, NY: Nova Science Publishers, 3–26.
- Rhodewalt, F. and Morf, C. C., 1995. Self and interpersonal correlates of the narcissistic personality inventory. *Journal of Research in Personality*, 29, 1–23.
- Rhodewalt, F. and Morf, C. C., 1998. On self-aggrandizement and anger: A temporal analysis of narcissism and affective reactions to success and failure. *Journal of Personality and Social Psychology*, 74, 672–685.
- Rusbult, C.E., 1980. Commitment and satisfaction in romantic associations: A test of the investment model. *Journal of Experimental Social Psychology*, 16, 172-186.
- Ryan, K.M., Weikel, K., and Sprechini, G., 2008. Gender differences and narcissism in courtship violence in dating couples, *Sex Roles*, 58, 802-813.
- Sabatelli, R. M., Dreyer, A., and Buck, R., 1983. Cognitive style and relationship quality in married dyads. *Journal of Personality*, 51, 192–201.
- Simons, C.A., *et al.*, 2005. Personality profile of women and men arrested for domestic violence: An analysis of similarity and differences. *Journal of Offender Rehabilitation*, 41, 63-81.
- Sobel, M. E., 1982. Asymptotic confidence intervals for indirect effects in structural equation models. In: S. Leinhardt, eds. *Sociological methodology 1982*. San Francisco: Jossey-Bass. 290–312.
- Sternberg, R. J., 1986. A triangular theory of love. *Psychological Review*, 93, 119-135.
- Van Lange, P.A.M., and Rusbult, C. E., 1995. My relationship is better than—and not as bad as—yours is: The perception of superiority in close relationships. *Personality and Social Psychology Bulletin*, 21, 32-44.

- Vazire, S. and Funder, D. C., 2006. Impulsivity and the self-defeating behavior of narcissists. *Personality and Social Psychology Review*, 10, 154–165.
- Vazire, S., et al., 2008. Portrait of a narcissist: Manifestations of narcissism in physical appearance. *Journal of Research in Personality*, 42, 1439–1447.
- Wan, W.W.N., Luk, C.L., and Lai, J.C.L., 2000. Personality correlates of loving style among chinese student in hong kong. *Personality and Individual Differences*, 29, 169-175.
- Watson, P. J. and Biderman, M. D., 1994. Narcissistic Traits Scale: Validity evidence and sex differences in narcissism. *Personality and Individual Differences*, 16, 501–504.
- Warson, P.J., et al., 1992. Measures of the narcissistic personality: complexity of relationship with self-esteem and empathy. *Journal of Personality Disorder*, 6, 434-449.
- Watson, P. J., et al., 1984. Narcissism and empathy: Validity evidence for the narcissistic personality inventory. *Journal of Personality Assessment*, 45, 159-162.
- White, J.K., Hendrick, S.S., and Hendrick, C., 2004. Big five personality variables and relationship constructs. *Personality and Individual Differences*, 37, 1519-1530.
- Wray, T.B., Simons, J.S., and Dvork, R.D., 2011. Alcohol-Related Infractions Among College Students: Associations With Subsequent Drinking as a Function of Sensitivity to Punishment. *Psychology of Addictive Behaviors*, 25, 253-357.
- Yeung, K.C., 1998. The dynamics of interparental conflict and adolescent's behavior problems. Ph.D. Thesis, University of Hong Kong, Hong Kong. (Unpublished Ph.D. Thesis).