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**Linking Adolescent and Adult Narcissism Research: A Contribution by the Narcissistic  
Admiration and Rivalry Concept**

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**Author Contributions**

Radosław Rogoza: conceptualization, writing original draft, review and editing; Barnaba Danieluk: writing original draft, methodology.

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**Abstract**

To date, adolescent and adult narcissism research are independent research branches with almost no cross-talk. In the current paper, we argue that it is possible to merge them. The study was completed by adolescents ( $N = 269$ ) three times during one year period and we compared their scores with adult population ( $N = 351$ ). Further, we evaluated whether the two-dimensional model of narcissism fits the data from adolescents and whether is invariant in comparison to the adults. Third, we analysed whether narcissism in adolescence is stable. Finally, we scrutinized whether the pathways underlying the link of narcissistic personality to being liked are the same in adolescent as reported in adult narcissism. We have found support for linking adolescent and adult narcissism.

*Keywords:* narcissism; adolescent narcissism; admiration; rivalry

## **Linking Adolescent and Adult Narcissism Research: A Contribution by the Narcissistic Admiration and Rivalry Concept**

Existing models of grandiose narcissism in the two adjacent developmental periods, i.e., adulthood and adolescence, are closely related in their theoretical descriptions – for example, they both suggest that narcissism has some self-beneficiary features like exaggerated self-esteem but also has some socially undesirable elements such as antagonism and exploitation of others. And yet, given such striking similarities, there is almost no cross-talk between them. While the conclusions drawn regarding these two domains are leading to the same conclusions, they are explained differently – only because they pertain to different developmental periods. That is, adult narcissism research aims to explain dynamics aspects and behavioural pathways underlying narcissistic personality, adolescent narcissism is rather focused on explaining aggressive behaviours, which are relevant to the school context. In the current paper, we aim to compare these two branches of narcissism research and provide one integrative platform for future studies on narcissistic personality.

### **Adult Narcissism**

Narcissism, accordingly to the Narcissism Spectrum Model (NSM) is broadly defined as entitled self-importance (Krizan & Herlache, 2018). Within the literature, there is an agreement that there are two forms of narcissism, grandiose and vulnerable (Miller & Campbell, 2008; Pincus & Lukowitsky, 2010; Wink, 1991), which both shares the common core of entitled self-importance and self-centred antagonism (Ackerman, Donnellan, & Wright, 2019; Crowe, Lynam, Campbell, & Miller, 2019; Miller & Campbell, 2008; Wright & Edershile, 2018). In this vein, it is possible to empirically differentiate three qualitatively different facets: agentic, antagonistic, and neurotic (Back, 2018; Miller et al., 2016). It should be noted that grandiose and vulnerable narcissism cannot be reduced to the agentic and neurotic facets as both of them also entail different expressions of antagonism (Ackerman et

al., 2019; Back, 2018; Krizan & Herlache, 2019; Miller & Campbell, 2008; Miller et al., 2016; Rogoza, Ciecuch, Strus, & Baran, 2019). Therefore, although the three factors of narcissism are empirically distinguishable, when studying a construct of (e.g., grandiose narcissism), one needs to focus on the two facets at a time. The current work in the whole regards grandiose narcissism, therefore, to conceptually cover the construct, we assessed agentic and antagonistic facets as outlined in the NSM.

Within the literature, there is a theoretical proposition of the Narcissistic Admiration and Rivalry Concept (NARC; Back et al., 2013) which was the first to disentangle bright and dark sides of narcissism in adult narcissism research. Within the NARC framework, the main goal of a narcissist is to maintain a grandiose self via two distinct but related strategies – admiration and rivalry, which are substantially stable over time (Back et al., 2013). The strategy of admiration is expressed in preoccupation with grandiose fantasies, striving for uniqueness, and charming behaviours, resulting in rather positive outcomes such as high self-esteem and general sociability (Back et al., 2013; Rogoza, Wyszynska, Maćkiewicz, & Ciecuch, 2016). The strategy of rivalry is expressed in the devaluing of others, striving for supremacy, and aggressiveness, resulting in rather negative outcomes such as tendency to engage social conflicts and lack of forgiveness (Back et al., 2013; Fatfouta, Zeigler-Hill, & Schröder-Abé, 2017). Regarding NSM, admiration and rivalry are indicators of agentic and antagonistic facets, respectively, which has been already suggested theoretically but also verified empirically (Crowe et al., 2019; Krizan & Herlache, 2018; Rogoza, Ciecuch, et al., 2019).

NARC (Back et al., 2013), however, cannot be subsumed under the framework of NSM in whole, as this model of grandiose narcissism regards not only the more stable trait characteristics offered by the NSM, but also regards the processes underlying the functioning of narcissistic personality. Therefore, NARC presents not only a descriptive perspective on

trait narcissism, but also creates an opportunity to explain more dynamic processes. For example, Leckelt, Küfner, Nestler, and Back (2015; but see also Leckelt et al., 2019) investigated how admiration and rivalry are able to explain the change of how narcissistic individuals are perceived over time (Czarna, Leifeld, Śmieja, Dufner, & Salovey, 2016; Paulhus, 1998). They found that admiration and rivalry predicts unique behavioural pathways leading to initial gain on being liked (positive effect of admiration) and its loss over time (negative effect of rivalry). Therefore, accordingly to Back (2018), there are at least three theoretical added value of NARC: 1) disentangles the self-regulatory processes constituting agentic and antagonistic facets of narcissism; 2) illuminate distinct motivational underpinnings of both sets of processes; and 3) explains their unique social outcomes.

### **Adolescent Narcissism**

Barry, Frick, and Killian (2003) noticed that adolescent narcissism has distinct effects and correlates, and advocated that the two-dimensional structure is best to represent the full breadth of this construct. They distinguished between adaptive and maladaptive narcissism, which are distinct and yet related manifestations of narcissism in adolescence. Adaptive narcissism regards overly positive self-evaluation and perceiving oneself as a leader and is associated with positive outcomes such as high self-esteem, satisfaction with relationships, and leadership tendencies (Barry & Wallace, 2010; Washburn, McMahon, King, Reinecke, & Silver, 2004). Maladaptive narcissism regards desire to achieve social status, being more important than others and a need to receive attention and praise from others and is related to negative outcomes such as delinquency or aggression (Barry et al., 2003; Barry, Grafeman, Adler, & Pickard, 2007). In this vein, adaptive and maladaptive narcissism seems to be indicators of the agentic and antagonistic facets of grandiose narcissism, respectively. It should be noted, however, that although exhibitionism (i.e., need to receive attention and praise from others) might be linked to some maladaptive content (e.g., entitlement rage;

Ackerman et al., 2011), empirical research on adult population suggests it is better indicator of agentic facet (Rogoza, Cieciuch, et al., 2019).

### **The Same Thing With the Different Name**

On the basis of the review of existing adult and adolescent narcissism conceptualisations, we argue that for several reasons there are no theoretical differences between these, and the only distinction lies within the nomenclature. Terminology on adolescent and adult narcissism is phenotypically similar and could be compared through the prism of the NSM (Krizan & Herlache, 2018). That is, adaptive narcissism and admiration are both indicators of agentic, and maladaptive narcissism and rivalry are both indicators of antagonistic facet. However, NARC offers the additional possibility to theoretically explain the processes and behavioural pathways underlying narcissistic personality (e.g., Grapsas, Brummelman, Back, & Denissen, 2020). In this vein, adaptive and maladaptive narcissism are more descriptive in nature, while NARC moves beyond the trait perspective. It provides explanations and allows for the generation of hypotheses, which altogether makes this model theoretically stronger. Moreover, the nomenclature of adolescent narcissism uses evaluative adjectives such as “adaptive-maladaptive”, which do not refer to actual features, and boils down to just evaluative judgements as narcissism is not always an adaptive trait (Krizan & Herlache, 2018; Miller, Lynam, Hyatt, & Campbell, 2017; Rogoza, Kowalski, & Schermer, 2019). Therefore, to reduce the “jangle” fallacy, but also to understand the underlying processes of narcissism in this important developmental period, we advocate unifying the terminology of adolescent and adult narcissism and we propose to apply the NARC onto adolescent narcissism research.

### **Current study**

Within the current paper, we scrutinize the extent to which research on narcissism in adolescence and adulthood is similar. For this purpose, we used two measures: adopted from

the adult research Narcissistic Admiration and Rivalry Questionnaire (NARQ; Back et al., 2013) and used in the adolescent narcissism research Narcissistic Personality Inventory for Children (NPIC; Barry et al., 2003). We assessed the relation to self-esteem given its crucial position in research on narcissism in a developmental context (Brummelman, Gürel, Thomaes, & Sedikides, 2018; Brummelman, Thomaes, & Sedikides, 2016) but also we scrutinized the criterion validity regarding the indicators relevant to the conceptual space of grandiose narcissism in NSM, that is the Dark Triad (Paulhus & Williams, 2002). Accordingly to the meta-analysis of the relations between facets of narcissism to self-esteem (Mota et al., 2019), we expected that (H1) admiration and adaptive narcissism should be related moderately positively, while rivalry and maladaptive narcissism should be related weakly negatively. In the assessment of criterion validity, Dark Triad narcissism is an indicator agentic facet, while Machiavellianism and psychopathy are relevant to the antagonistic facet of narcissism (Rogoza, Kowalski, et al., 2019; Trahair et al., 2020), therefore, admiration and adaptive narcissism should be related strongly positively to the Dark Triad narcissism, and rivalry and maladaptive narcissism should be related strongly positively to Machiavellianism and psychopathy.

Furthermore, we assessed whether the results obtained through NARQ in adult narcissism research would be similar in adolescence. We evaluated NARQ under a few circumstances. First, we assessed whether the hypothesized two-dimensional measurement model fits the data well in an adolescent sample. We expected (H2) to find support for this model, nevertheless, some small deviations were expected (Doroszuk et al., 2019; Rogoza, Rogoza, & Wyszynska, 2016; Wetzel et al., 2021). Given that the fact the NPIC was not the subject of factor analysis, we did not make any assumptions about its hypothesized structure. Second, we assessed the degree of similarity between NARQ measurement model in adolescents and adults, as well as between subsequent measurement occasions in the



adolescent sample. We expected to find support for all these tested models (H3). Third, we evaluated whether admiration and rivalry are stable over time. Given the trait character of admiration and rivalry, we did not expect significant changes in their levels of intensity (H4). Finally, we scrutinized whether the behavioural pathways related to being liked, reflecting underlying processes are the same as in adult research (Leckelt et al., 2015; 2019). We expected (H5) to identify the same behavioural pathways, that is, admiration should predict an increase in being liked in short-term, while rivalry should predict a decrease in being liked by others in long-term. The outlined hypotheses were not preregistered. All of the data, syntaxes, and used materials are available at:

[https://osf.io/re3qu/?view\\_only=ece4a05e89a3419ebf94b439e0c42b71](https://osf.io/re3qu/?view_only=ece4a05e89a3419ebf94b439e0c42b71)

## Method

### Participants and Procedure

Following Muthén and Muthén (2002) recommendations, we conducted a Monte Carlo simulation on the original data (Back et al., 2013) to decide on the minimum sample size to maintain power of .80 for each model parameter (i.e., item factor loading, factor covariance, and residual variance). The results revealed that the minimum sample size equalled 200.

The data were collected in Poland, in adolescent research were collected by paper-and-pencil method during classes in high schools. The study on adolescents occurred soon after the beginning of the school year and only the students whose parents agreed to their participation were enrolled into the study. We enrolled only freshman students because their mutual acquaintance was low, which allowed to assess effects of admiration and rivalry on being liked by others. Participants did not receive any incentives upon completion of the study, however, each class taking part in the project was rewarded with approximately 100USD. The study was repeated after three months and after one year from the initial measurement point. In sum,  $N = 296$  (60.5% girls) aged between 15 to 17 years ( $M_{\text{age}} = 15.96$ ;

$SD = 0.22$  during the first wave) adolescents participated at least in one of the studies. We excluded from the analyses those students, who participated only in one measurement occasion, which resulted in the final sample of  $N = 269$  adolescents (59.5% girls). Within the final sample, there were 20 missing observations in wave 1, 17 in wave 2, and 35 in wave 3. This sample was used for testing the Structural Equation Modeling analyses (i.e., CFA, MGCFA, LGC). Because of absences among students, often due to illness, some of the data has been lost. Although each student could supplement his or her answers within a week in the presence of a school psychologist, 192 students (60.4% girls) correctly completed all questionnaires during the three measurement occasions. There were no differences between the final sample and those who completed all three measurements for the second and third measurement of admiration ( $p$ 's  $> .174$ ) and the first and second measurement of rivalry ( $p$ 's  $> .173$ ). Excluded participants scored, however higher on admiration in time 1 ( $p = .012$ ) and rivalry in time 3 ( $p = .004$ ). This data was used in the assessment of being liked by others through TERGM, as this statistical procedure does not allow for missing observations. In sum, for the assessment of being liked we gathered data on 3087 peer reports.

Within the study of adults, we used data from different project aimed to develop a new narcissism measure (blinded). We used only subsample of data of participants older than 25 years, which resulted in sample of  $N = 351$  Polish adults (69.2% female) aged between 25 to 70 ( $M = 35.56$ ;  $SD = 9.98$ ). The participants in the adult sample were recruited by three trained research assistants and completed a set of self-report measures online. All of the measures were administered in Polish. There was no incentive for participants upon completion of the study.

## Measures

**Narcissistic Admiration and Rivalry Questionnaire** (NARQ; Back et al., 2013).

NARQ was completed by adults and during each measurement occasion by adolescents. The

NARQ questionnaire has a two-dimensional structure (i.e., admiration and rivalry) and consists of 18 items and a six-point response scale, and has been demonstrated to display very good reliability among both adults (admiration:  $\alpha = .85$ ; rivalry =  $\alpha = .81$ ) and adolescents (admiration:  $\alpha = .85$ - $.86$ ; rivalry:  $\alpha = .83$ - $.88$ ).

**Narcissistic Personality Inventory for Children (NPIC, Barry et al., 2003).** The NPIC was used only at the third measurement occasion in the adolescent sample. It is a downward extension of the Narcissistic Personality Inventory (Raskin & Hall, 1979) developed for use with children and adolescents. Although it comprises 40 forced-choice items as the original version, accordingly to Barry et al. (2003), only 29 are used to calculate two scales – adaptive (comprising 12 items; exemplary item: *I have always been a leader*), and maladaptive narcissism (comprising 17 items; exemplary item: *I won't be happy until I get everything that I should get*). Participants were asked first to select one of the two statements (narcissistic vs non-narcissistic) and then select whether this statement is *sort of true* or *really true*. As a result, items in NPIC are scored on a four-point Likert-type scale ranging from 0 (i.e., *really true of me* for the non-narcissistic option) to 3 (i.e., *really true of me* for the narcissistic option). The NPIC was administered to all participants in the third measurement point; however, it was completed by  $n = 211$ . Both scales had acceptable reliability estimates in the current study, i.e.,  $\alpha = .73$  for adaptive narcissism and  $\alpha = .76$  for maladaptive narcissism.

**Lifespan Self-Esteem Scale (LSE; Harris, Donnellan, & Trzesniewski, 2018).** The LSE was also used in the third measurement occasion in adolescents. It is a four-item measure of global self-esteem, which can be used across the lifespan (from five years of age). It comprise five-point Likert-type scale consisting of five emoji representing feelings from really sad to really happy. It was demonstrated that it is convergent with other global self-esteem measures, including the Rosenberg Self-Esteem Scale (Harris et al., 2018; Rosenberg,

1965). In the current study, the LSE with  $\alpha = .91$  turned out to be reliable in its measurement of global self-esteem.

**Short Dark Triad (SD3;** Jones & Paulhus, 2014). The SD3 was used in all measurement occasions in the adolescent sample (for more details, see blinded for review), however for the purposes of the current paper we report only those from the third. It is a measure of the Dark Triad traits of personality (i.e., psychopathy, narcissism, and Machiavellianism). It comprises 27 items on which respondents answer using five-point Likert-type scale. All scales obtained acceptable reliability estimates, i.e.,  $\alpha = .71$  for narcissism,  $\alpha = .79$  for psychopathy and  $\alpha = .79$  for Machiavellianism.

**Measurement of Being Liked.** During each measurement occasion, participants were asked to nominate peers from their class they liked the most. Participants were presented a full list of class members and nominated their peers through marking a box next to a student name. The list was anonymized during the coding process. No limit on the number of nominees was imposed, that is, participants could select no one from the list, or mark as many peers as they desired.

### **Statistical Analyses**

To test the first hypothesis (H1), two-tailed Pearson's correlations were applied. To test H2, Confirmatory Factor Analysis (CFA) was applied. To test H3, we used Multigroup Confirmatory Factor Analysis (MGCFA). To test H4, we analysed the Latent Growth Curve (LGC). To test H5, we examined the results of the Temporal Exponential Random Graph Model (TERGM). The CFA and MGCFA were carried out in R using the lavaan package (Rosseel, 2012) and LGC was carried out in Mplus v. 7.2 (Muthén & Muthén, 2012). Missing data were handled using full information maximum likelihood. To evaluate the model fit in CFA, MGCFA and LGC, we used conventional recommendations of  $CFI > .90$  and  $RMSEA < .08$  (Byrne, 1994). In MGCFA, there are three levels differing in the strength of

constraints—the weakest (configural) model does not constrain any parameters, the weak (metric) model constrains factor loadings to be equal, and the strong (scalar) model constrains factor loadings and item intercepts to be equal across groups. As each subsequent model is more constrained, the results are seen to be invariant if the difference between the following models does not exceed .010 in CFI and .015 in RMSEA (Chen, 2007). To evaluate the LGC results (Byrne & Crombie, 2003) one needs to first assess whether model fits the data well. If so, it is possible to interpret the values of the intercept (i.e., baseline level) and slope (i.e., change). Non-significant mean value of the slope provides information about trait stability. Significant values of intercept variance provides information whether participants differed in their baseline levels of the analysed trait.

Exponential Random Graph Models (ERGM) are typically used for estimation of network models (Lusher, Koskinen & Robins, 2013; Robins, Pattison, Kalish, & Lusher, 2007). In the current study, we analysed ten independent networks, where each network corresponded to the students in class. More specifically, each student nominated other students (but only in his or hers) class whether he or she liked. The data was gathered in three time points and due to that fact we used the temporal extension of ERGM algorithm – Temporal Exponential Random Graph Models. TERGM is used to simulate a pattern of dependencies between a set of covariates and the participant's relations within a social network in multigroup settings (Krivitsky & Handcock, 2014; Hanneke, Wu & Xing, 2010). That is, TERGM allows to test whether a trait predicts incoming and outgoing nominations. TERGM also allows to test the interaction between variables and time. That is, it allows to assess whether a given trait predicted increase or decrease in incoming and outgoing nominations over time. Of main interest to the current study was to answer whether admiration and rivalry predicts being liked by others, therefore we present only these results in text. However, we assessed other parameters (e.g., liking others) and network dependencies

(e.g., reciprocating relations, creating triads, see: Steglich, Snijders & Pearson, 2010). These estimates are provided in supplementary materials at OSF. The TERGM was estimated using Markov Chain Monte Carlo Maximum Likelihood Estimation (MCMC-MLE) that is implemented in *xergm* package for R statistical environment (Leifeld, Cranmer & Desmarais, 2018; R Core Team, 2015).

## Results

### Descriptive Statistics of the Studied Variables

The descriptive statistics for all study variables are presented in Table 1. Except for rivalry in the third measurement of the adolescent sample and in the adult population, all variables were normally distributed.

### Assessment of Adolescent Narcissism Correlates – Hypothesis 1

Both admiration and rivalry,  $r = .53$  [95%CI: .43, .62];  $p < .001$ , as well as adaptive and maladaptive narcissism,  $r = .68$ [95%CI: .60, .74];  $p < .001$ , turned out to be positively intercorrelated. Admiration was more strongly related to adaptive,  $r = .49$ [95%CI: .38, .59];  $p < .001$ , than to maladaptive narcissism,  $r = .40$ [95%CI: .28, .51];  $p < .001$ ;  $Z = 1.96$ ;  $p = .025$ . Rivalry, as expected, was more strongly related to maladaptive,  $r = .46$ [95%CI: .35, .56];  $p < .001$ , than to adaptive narcissism,  $r = .27$ [95%CI: .14, .39];  $p < .001$ ;  $Z = 3.96$ ;  $p < .001$ . The relations between admiration, rivalry, and adaptive and maladaptive narcissism to the criterion validity variables are presented in Table 2. Admiration and adaptive narcissism were related positively to self-esteem, albeit the former was related moderately, the latter weakly, providing more support for the validity of admiration. Both were to the same extent strongly related to the narcissism from Dark Triad, providing support for their criterion validity. Rivalry and maladaptive narcissism were unrelated to self-esteem, which was in contrast to our expectations. Both correlated positively, moderately strongly with psychopathy and Machiavellianism. Rivalry correlated more strongly with Machiavellianism, providing more

support for its criterion validity. To sum up, hypothesis 1, except for relation of rivalry and maladaptive narcissism to self-esteem, was confirmed in full and we found more evidence of validity for admiration and rivalry.

### **Evaluation of the NARQ Measurement Models – Hypothesis 2**

The fit indices of CFA are presented in Table 3. Standardized factor loadings for each sample are presented as supplementary material at OSF project site. All analysed measurement models appeared well fitted well accordingly to RMSEA but not CFI. Measurement model of NARQ was fitted reasonably, with adults demonstrating worse fit. While it would be possible to increase the model fit through the introduction of error covariances into the model to acceptable ranges (please see supplementary materials), given the fact that we aimed to compare exactly the same model of NARQ between adolescents and adults, we decided not to introduce such additional parameters into the model. Measurement model of NPIC was fitted rather poorly and we were unable to solve it through the introduction of error covariances into the model. Thus, the hypothesis 2 was confirmed only in partial.

### **Comparison of Measurement Model Between Adolescents and Adults – Hypothesis 3**

The results of the MGCFA are presented in Table 4. In all compared samples, we have found support for configural and metric, but not scalar invariance according to the difference in CFI. It is worth noting, however, that the absolute threshold of CFI was below conventional standards (i.e.,  $> .900$ ), which is because we did not introduced any error covariances to the analysed model. In order to establish a partial scalar invariance model, we freed one intercept with the highest expected parameter change at a time in order to identify potential sources of the lack of invariance. Item “*I will someday be famous*” appeared as non-invariant in all analysed samples. In addition to that, we freed the intercepts of two items with lesser influence on the fit indices of the scalar model (i.e., “*Most of the time I am able to draw*

*people's attention to myself in conversation*" and *"I manage to be the center of attention with my outstanding contributions"* ) in order to establish acceptable estimates in all compared samples. Therefore, the hypothesis 3 was confirmed, albeit with some reservation.

#### **Stability of Admiration and Rivalry – Hypothesis 4**

The zero-order correlations between admiration and rivalry at each time point are given in Table 5. Either the model for admiration ( $\chi^2_{(1)} = 2.26; p = .133; CFI = .990; RMSEA = .068$ ) and rivalry ( $\chi^2_{(1)} = 0.19; p = .666; CFI = 1.00; RMSEA = .00$ ) were well fitted and thus, enabling interpretation of the LGC parameters. We found that the average baseline score in admiration was  $\alpha_0 = 3.38; p < .001$ , and there was significant variability in these scores across individuals at baseline  $\psi_0 = .46; p < .001$ . Over the period of one year, the mean level of admiration negligibly increased,  $\alpha_1 = .05; p = .005$ , and the participants changed at approximately the same rate  $\psi_1 = -.03; p = .279$ , ns. The average baseline score in rivalry was lower than that of admiration,  $\alpha_0 = 2.54; p < .001$ ; also, there was significant variability at the baseline  $\psi_0 = .52; p < .001$ . Over the one-year period, there were no changes in the rivalry mean scores,  $\alpha_1 = -.03; p = .114$ , and the participants tended to change at the same rate  $\psi_1 = .00; p = .990$ , ns. Thus, the hypothesis 4 was mostly supported.

#### **Being Liked over Time – Hypothesis 5**

The results of the TERGM model, presenting the interaction of admiration and rivalry with time are presented in Figures 1 to 4. During short-term relation (Figures 1 and 2), admiration predicted an increase in being liked by others ( $TERGM(SE) = .29(.16); OR = 1.33; 95\% CI for OR = [.98; 1.82]$ ), while the effects of rivalry were blurred. However, during long-term relation (Figures 3 and 4), the effects of admiration were low, while rivalry predicted a decrease in being liked by others ( $TERGM(SE) = -.46(.14); OR = .63; 95\% CI for OR = [.48; .83]$ ). Thus, the hypothesis 5 was confirmed in full.



## Discussion

Within the current paper, we demonstrated that the results of the research on adolescent narcissism can be compared with the adult narcissism research. For this purpose, we applied an adult narcissism measure, that is, NARQ to adolescents and compared it to an existing measure of adolescent narcissism, that is, NPIC. We assessed their correlates, compared whether the same two-dimensional structural model represents data from adolescent and adult population, we scrutinized the stability over time and investigated the behavioural pathways linking narcissism to being liked by others. Our results generally support the claim that research on adolescent and adult narcissism are assessing the same construct.

### Correlates of Narcissism in Adolescence

In the current study, NARQ and NPIC dimensions were compared regarding self-esteem and the Dark Triad of personality. In all analysed relations, the NARQ and the NPIC dimensions were convergent, disentangling the bright (e.g., positive relation between admiration/adaptive narcissism to self-esteem) and dark (e.g., positive relation between rivalry/maladaptive narcissism to psychopathy) side of grandiose narcissism (Back et al., 2013). However, there were two differences between these measures. Admiration was more strongly related to other narcissism measure, which assesses the same dimension of the NSM (Krizan & Herlache, 2019; Rogoza, Ciecuch et al., 2019; Trahair et al., 2020) than the adaptive narcissism. Rivalry in turn was more strongly related to Machiavellianism, which is an indicator relevant to the NSM self-importance (Rogoza, Kowalski et al., 2019). The only prediction that we failed is that rivalry and maladaptive narcissism were hypothesized to be negatively related to self-esteem (Mota et al., 2019), while their relation was non-significant. This result is however similar to those observed in adult narcissism literature (e.g., Vecchione et al., 2019). On the basis of their pattern of correlates, the NARQ and the NPIC might initially be seen as interchangeable in the predictive utility of their dimensions. However, it

turned out that we found more support for NARQ criterion validity. This result suggests, regarding the variables analysed under study, that choosing the NARQ over the NPIC might be preferred. Thus, despite measuring close elements of the same construct, the NARQ seems to do it in a more precise manner.

### **Structure of Narcissism in Adolescence**

We have found some support for the two-dimensional model of grandiose narcissism as measured by NARQ and more limited evidence from NPIC. Fit indices of the NARQ measurement model were generally at the boundaries of conventional criteria. Similar results were found both in adolescent and adult samples. They were however not surprising, given the fact such result is similar to those observed in other research (e.g., Doroszuk et al., 2019). While we could improve the model fit through the introduction of up to three residual covariances into the model, we did not do so, given the fact we aimed to compare the very same model between adolescents and adult samples, while introduced covariances would vary between the samples.

Fit of the two-dimensional model as measured by the NPIC might potentially be the result of the non-standard response format, which is unintuitive, i.e., participants are first asked with a forced choice format and then asked to rate the intensity of their agreement. Despite the fact that both the NARQ and the NPIC were administered to all participants, it was impossible to code all responses: as they were choosing both of the two options, there was a resultant loss of 13.04% participants. Such a response format might be better for self-report measurement of narcissism in adults than adolescents, and, yet, the NPIC was designed as a measure for children (Barry et al., 2003). Research using a standard version of the NPI, however, also suggested that the forced-choice format might not be the best option, and that a Likert-type scale might be more favorable (Ackerman, Donnellan, Roberts, & Fraley, 2016).

We also compared the two-dimensional structure of narcissism as measured by NARQ between three adolescent samples to the adults. We found that the tested model was invariant on three levels, which means that: (configural level) adolescents and adults conceptualise the construct of narcissism in essentially the same way (i.e., as comprising two dimensions); (metric level) adolescents and adults understand narcissism in the same fashion; and (scalar level) partially, despite being an adolescent or adult, those individuals who scored the same on any NARQ dimension, had the same expected values on particular items (see Davidov, Meuleman, Cieciuch, Schmidt, & Billiet, 2014). Nevertheless, we did not find support for full scalar model, which means that there were some differences. They were mostly visible in item “*I will someday be famous*”. This is the only NARQ item which refers to the future, therefore the observed lack of invariance might be explained that adolescents perceive their future from youth perspective, while adults (aged at least 25) more adequately assess what will happen with their lives.

Summarizing, the results of the structural analyses provided some evidence that the two-dimensional model of grandiose narcissism reproduces in adolescence as well as it does in adult populations (Altmann, 2017; Back et al., 2013; Rogoza et al., 2016; Vecchione et al., 2018; Wetzel et al., 2021). Still, we have found more support for the measurement model of NARQ, which again appears to be superior when compared to the NPIC.

### **Stability of Narcissism in Adolescence**

Prior to testing whether narcissism in adolescence is stable or not, we conducted a test of measurement invariance across subsequent time points. The results provided evidence of full scalar invariance. The results of the LGC provided evidence that while there were some differences at the baseline level of, admiration and rivalry (i.e., students scored differently as not everyone is a narcissist; Wetzel, Leckelt, Gerlach, & Back, 2016), the changes in their intensity over the one year period was marginal. While studies on adult population only

examined the rank-order stability over 5-week period (Back et al., 2013) suggesting that admiration and rivalry are stable, the results of the current study extend this claim, providing evidence that these traits are stable over the period of one year.

### **Narcissist's Likability Over Time**

Existing studies on adult populations reported somewhat mixed findings – with some of them providing evidence of rather positive evaluations of narcissistic individuals (e.g., Back, Schmukle, & Egloff, 2011), while the others highlighted their negative perceptions (e.g., Rauthmann, 2012). Paulhus (1998) was the first to notice that these discrepancies might be due the moderating role of acquaintance, however his findings were extended by Leckelt and colleagues (2015, 2019). They explained the dual-pathway associated to narcissistic likability through the investigation of the more dynamic effects of admiration and rivalry. It is worth noting that this approach moves beyond the trait perspective. This is because, the interpersonal processes took place during real social interactions and these might be easily overlooked as they appear only under specific circumstances (here – the course of getting acquainted). The trajectory of admiration and rivalry are much different – while admiration explains initial gain on being liked, rivalry explains its later loss (Leckelt et al., 2015, 2019). This is consistent with previous longitudinal studies (Paulhus, 1998) but also with the theoretical expectations (Campbell & Campbell, 2009). Our findings, using a different methodology (i.e., social network) and different (i.e., adolescent) sample, led to the essentially same results, that is – the observed trajectories of admiration and rivalry were suggesting the same initial and later effects as in adult narcissism research. This finding supports once again that adolescent and adult narcissism research are assessing the same thing.

### **Limitations**

The goal of the current research was to demonstrate that the research on adolescent and adult narcissism are essentially the same. For this purpose, we conducted a one-year

longitudinal study using the NARQ on freshly acquainted adolescents, comparing them to adults. Admittedly, regarding the adult population, which data was gathered online and thus more vulnerable to inattentive responding, we did not include any attention check in the study to diminish this effect. One of the important limitations is that we used NPIC only during the last measurement occasion, thus we were unable to conduct any longitudinal analyses nor assess whether the links to being liked would be replicated as well. However, the model behind NPIC does not seem to provide any explanations regarding the processes underlying such behavioural pathways, while NARC does (Back, 2018; Back et al., 2013; Grapsas et al., 2020; Leckelt et al., 2015, 2019). Therefore, we believe that application of NARC to the adolescent narcissism research will enhance future studies on the development of, and underlying dynamics associated with, the narcissistic personality. While we aimed to use our data optimally, longitudinal design is necessarily burdened with missing observations. This is especially important in the assessment of peer likability, given the fact we had to exclude some participants. Analyses suggested that those who were excluded scored higher on time 1 admiration and time 3 rivalry. While we tried to contact these participants, we loosed some data, which likely influenced the obtained results. Still, the results of the peer-reported likability are essentially the same as in existing studies (Leckelt et al, 2015, 2019). Another limitation is that the studied population of adolescents was homogenous in terms of age, which was necessary to assess the effect of narcissism on being liked by others. Although we have provided some evidence for stability of the NARQ measurement model across time, studying different age groups could potentially influence the obtained results. Nevertheless, given the fact that we used multiple methodologies, we believe that the results from our study could be generalized to other adolescent populations.

## Conclusion

The results of the current study demonstrate that there are no real differences in narcissism studied in adolescent and adult populations in terms of correlates, structure, stability, and behavioural pathways underlying narcissistic personality. Thus, recent theoretical advances in the adult narcissism research such as the introduction of the NSM (Krizan & Herlache, 2018) or rich empirical illustrations such as presentation of narcissism from the basic trait perspective (Miller et al., 2017) could be meaningfully applied to the research on adolescent narcissism. Moreover, we provided evidence that the NARQ (Back et al., 2013) can successfully apply to adolescent population and outperforms the typically used NPIC. Our finding enables terminological clarity, combining both paths of adult and adolescent narcissism concepts in future scientific inquiries. Therefore, as a result of our theoretical expectations and empirical research, we argue that the terms of narcissistic admiration and rivalry can successfully be used in adolescent narcissism research as well as in adult research and, further, are better at describing narcissistic personality than adaptive and maladaptive narcissism.

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*Figure 1.* Main effect of being liked (i.e., “admiration: receiver”) in short-term. Effect irrespective of time is presented in light gray; the effect for the first time point in black and for the second time point in dark gray.

*Note.* Y-axis represents probability of receiving a friendship tie. The gray areas around lines represent 95% confidence intervals.

*Figure 2.* Main effect of being liked (i.e., “rivalry: receiver”) in short-term. Effect irrespective of time is presented in light gray; the effect for the first time point in black and for the second time point in dark gray.

*Note.* Y-axis represents probability of receiving a friendship tie. The gray areas around lines represent 95% confidence intervals.

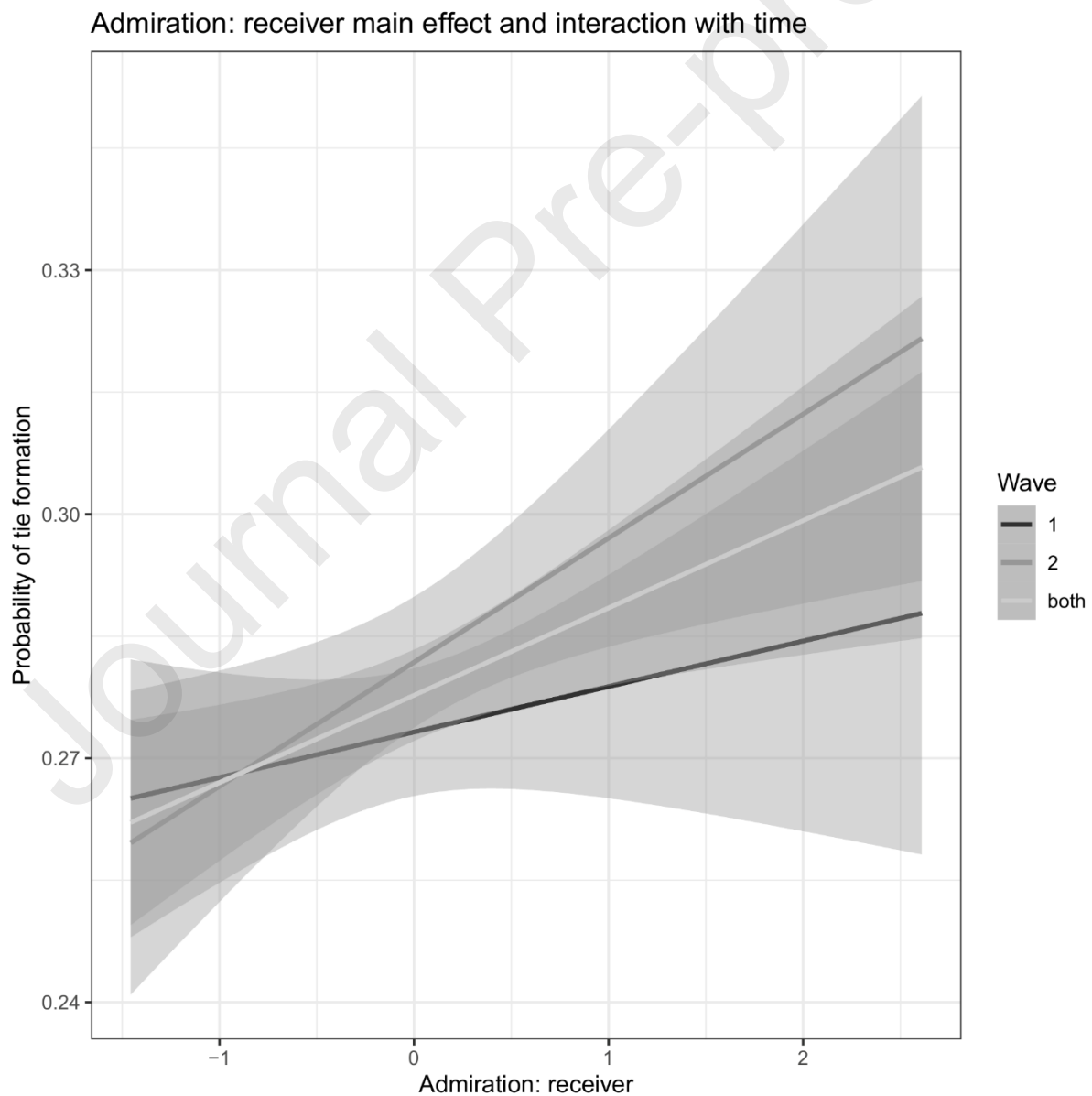


*Figure 3.* Main effect of being liked (i.e., “admiration: receiver”) in long-term. Effect irrespective of time is presented in light gray; the effect for the first time point in black and for the third time point in dark gray.

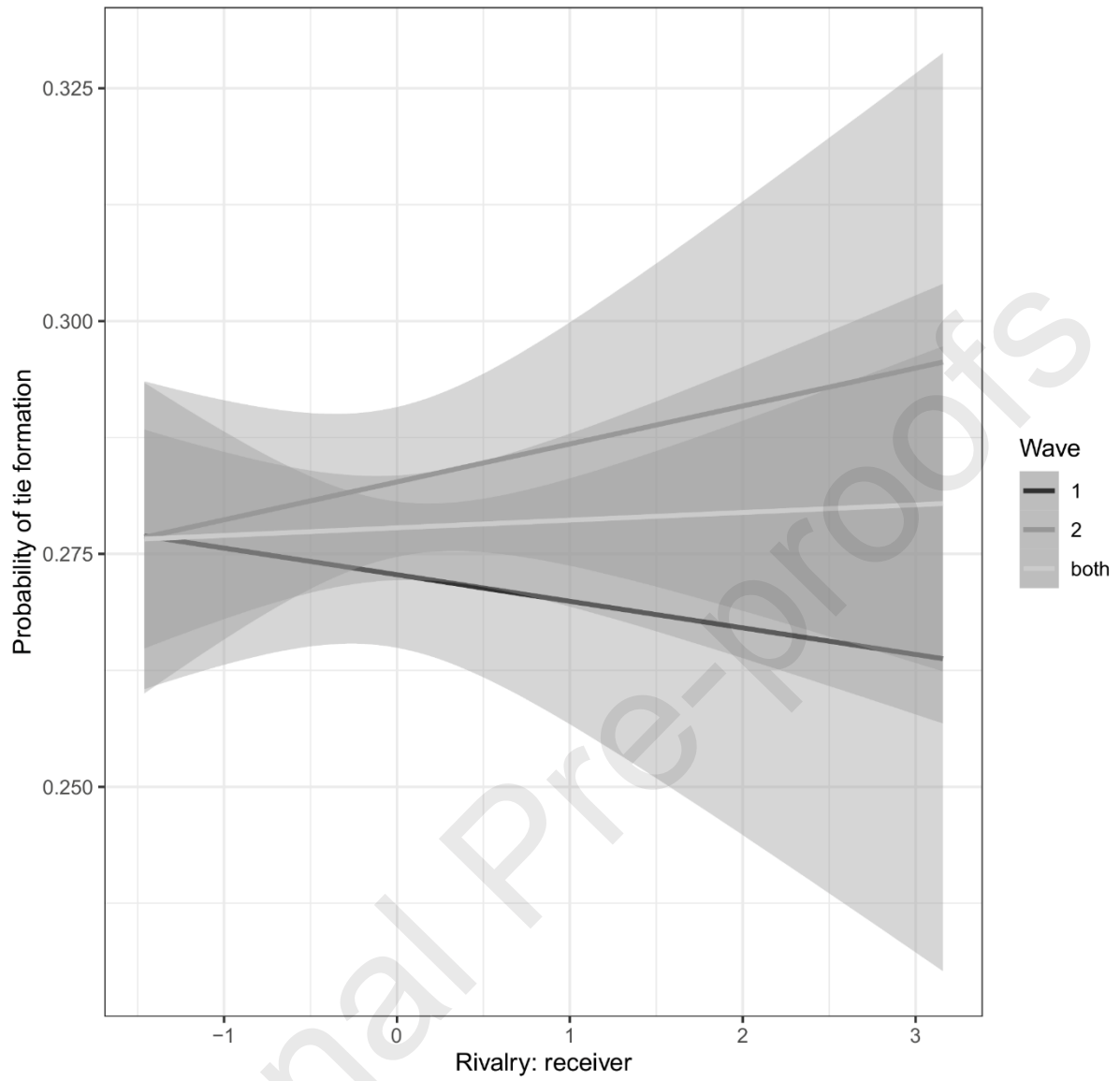
*Note.* Y-axis represents probability of receiving a friendship tie. The gray areas around lines represent 95% confidence intervals.

Figure 4. Main effect of being liked (i.e., “rivalry: receiver”) in long term. Effect irrespective of time is presented in light gray; the effect for the first time point in black and for the third time point in dark gray.

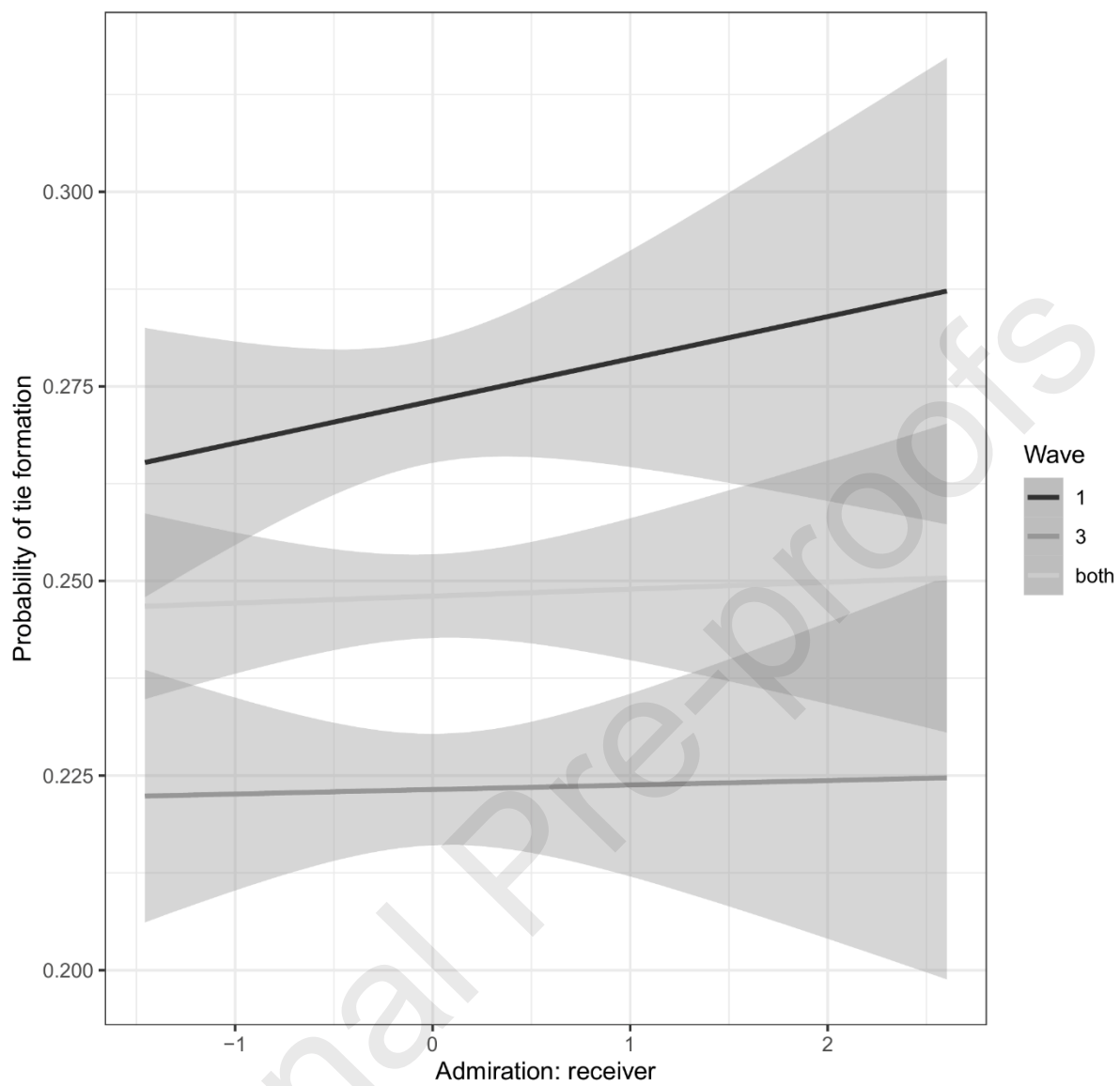
Note. Y-axis represents probability of receiving a friendship tie. The gray areas around lines represent 95% confidence intervals.



Rivalry: receiver main effect and interaction with time



Admiration: receiver main effect and interaction with time



Rivalry: receiver main effect and interaction with time

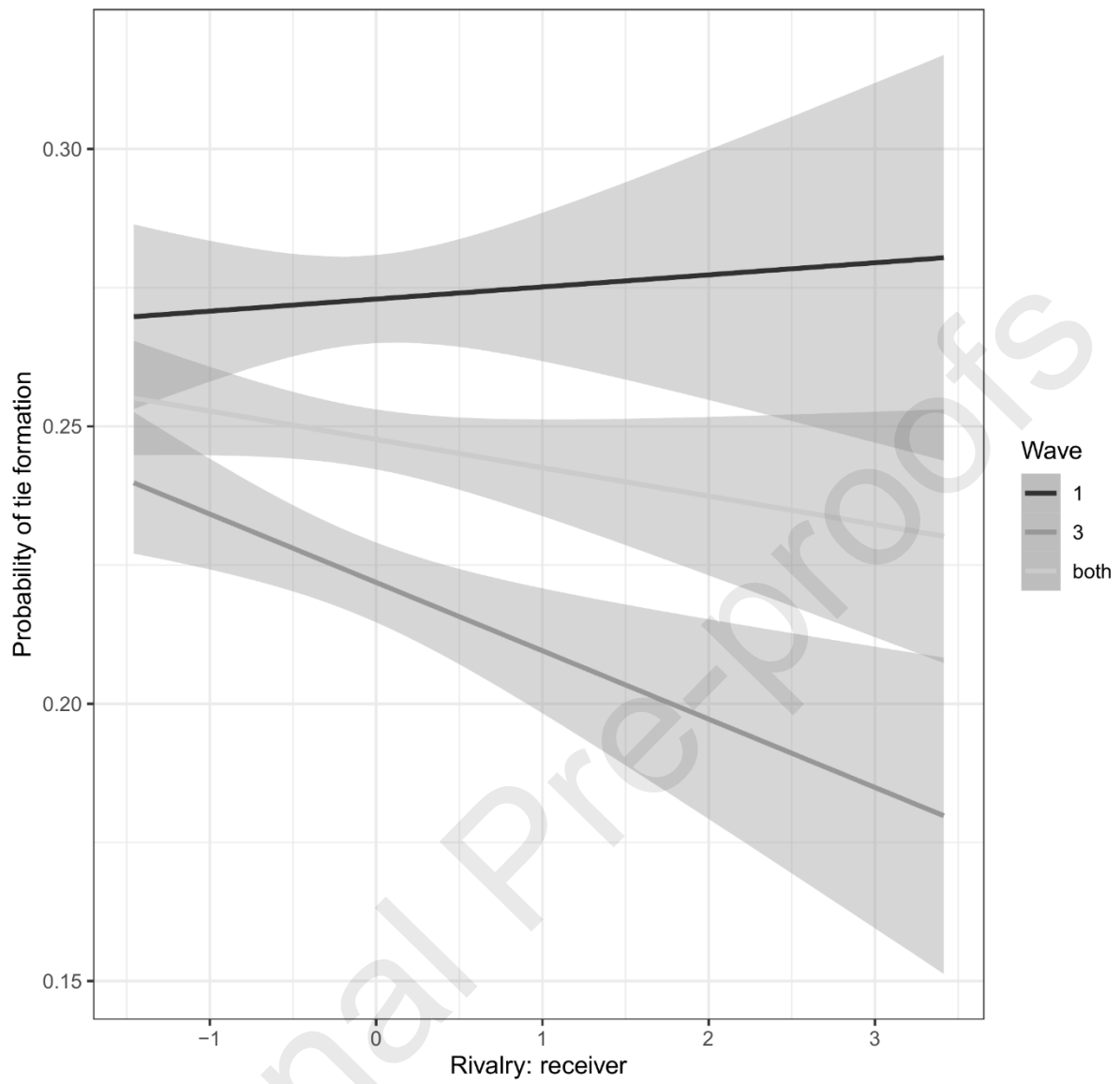


Table 1

*Descriptive Statistics of the Studied Variables*

	<i>M</i>	<i>SD</i>	<i>S</i>	<i>K</i>
Admiration time 1	3.35	0.88	0.31	-0.20
Admiration time 2	3.45	0.82	-0.02	0.05
Admiration time 3	3.48	0.92	0.51	0.24
Admiration adult	3.26	0.93	-0.07	-0.45
Rivalry time 1	2.52	0.86	0.69	0.32
Rivalry time 2	2.50	0.84	0.62	0.70
Rivalry time 3	2.43	1.05	1.17	1.53
Rivalry adult	2.01	0.77	1.14	1.33
Adaptive narcissism	2.26	0.49	0.41	0.26
Maladaptive narcissism	2.12	0.44	0.35	-0.02
Self-esteem	3.66	0.85	-0.50	0.67
Dark Triad narcissism	2.71	0.62	0.25	0.19
Machiavellianism	2.98	0.73	0.19	-0.49
Psychopathy	2.24	0.74	0.58	0.00

Table 2

*Relations Between Admiration, Rivalry, Adaptive and Maladaptive Narcissism to Criterion Validity Variables with 95% Confidence Intervals*

	Admiration	Adaptive narcissism	Z	Rivalry	Maladaptive narcissism	Z
Self-esteem	.45* [.35, .55]	.25* [.12, .38]	3.30*	-.03 [-.15, .10]	.09 [-.04, .22]	1.76
Dark Triad Narcissism	.67* [.60, .74]	.67* [.59, .74]	0.00	.40* [.29, .50]	.53* [.42, .62]	2.25
Psychopathy	.35* [.23, .46]	.45* [.34, .55]	1.69	.49* [.39, .58]	.55* [.45, .64]	1.09
Machiavellianism	.39* [.28, .50]	.32* [.19, .44]	1.15	.58* [.48, .66]	.42* [.31, .53]	2.86*

*Note.* Bonferroni correction for multiple testing applied. Estimates are marked significant at  $p < .006$ . Estimates of admiration and rivalry are from the third timepoint.

Table 3

*Fit Indices of the Analysed NARQ and NPIC Measurement Models*

	$\chi^2_{(df)}$	$p$	CFI	RMSEA	90%CI
Adolescent Time 1	302.15 <sub>(128)</sub>	< .001	.875	.074	.063, .085
Adolescent Time 2	277.16 <sub>(128)</sub>	< .001	.897	.068	.057, .079
Adolescent Time 3	300.93 <sub>(128)</sub>	< .001	.883	.076	.065, .085
Adult	389.45 <sub>(128)</sub>	< .001	.856	.076	.068, .085
NPIC	527.88 <sub>(229)</sub>	< .001	.786	.079	.070, .087

*Note.* Because NPIC comprise only four response categories, we used polychoric correlation matrices and used weighted least squares with means and variance adjusted estimation.



Table 4

*Comparison of the Model Fit Indices of the Tested MGCFA Models Between Adolescents and Adults*

Model	$\chi^2_{(df)}$	CFI	RMSEA	$\Delta\chi^2_{(df)}$	$\Delta$ CFI	$\Delta$ RMSEA
<b>Adolescents time 1</b>						
Configural	629.29 <sub>(256)</sub>	.864	.075			
Metric	721.25 <sub>(272)</sub>	.860	.080	91.96 <sub>(16)</sub>	.004	.005
Scalar	841.38 <sub>(282)</sub>	.826	.081	120.13 <sub>(10)</sub>	.034	.001
Partial scalar*	745.86 <sub>(279)</sub>	.855	.075	24.61 <sub>(7)</sub>	.005	.005
<b>Adolescents time 2</b>						
Configural	665.52 <sub>(256)</sub>	.874	.073			
Metric	690.17 <sub>(272)</sub>	.872	.071	24.65 <sub>(16)</sub>	.002	.002
Scalar	821.40 <sub>(282)</sub>	.834	.080	131.23 <sub>(10)</sub>	.038	.009
Partial scalar*	721.14 <sub>(279)</sub>	.864	.072	30.97 <sub>(7)</sub>	.008	.001
<b>Adolescents time 3</b>						
Configural	688.16 <sub>(256)</sub>	.868	.076			
Metric	739.12 <sub>(272)</sub>	.858	.077	50.96 <sub>(16)</sub>	.010	.001
Scalar	826.11 <sub>(282)</sub>	.834	.081	86.99 <sub>(10)</sub>	.024	.004
Partial scalar*	763.55 <sub>(279)</sub>	.852	.077	24.43 <sub>(7)</sub>	.006	.004

\*Intercepts of items 2, 7 & 16 were freed.

Table 5

*Zero-Order Correlations Between Admiration and Rivalry Across Three Time-Points with 95% Confidence Intervals*

	Admiration 1	Admiration 2	Admiration 3	Rivalry 1	Rivalry 2
Admiration 2	.63 [.54, .70]				
Admiration 3	.56 [.46, .65]	.49 [.38, .58]			
Rivalry 1	.50 [.40, .59]	.30 [.18, .42]	.30 [.17, .41]		
Rivalry 2	.33 [.21, .44]	.48 [.38, .57]	.27 [.14, .39]	.68 [.60, .74]	
Rivalry 3	.30 [.17, .41]	.23 [.10, .35]	.53 [.43, .62]	.51 [.41, .61]	.49 [.38, .58]

*Note.* All correlations were significant at  $p < .001$ ; except for Rivalry 3 to Admiration 2, which was significant at  $p < .01$ .

### Highlights

- Adolescent and adult narcissism research on grandiose narcissism assesses the same thing
- Two-dimensional model of narcissism fits adolescent population
- Adolescent narcissism has the same correlates, structure, and temporal stability as adult narcissism
- Adolescent admiration predicts initial increase in being liked
- Adolescent rivalry predicts later decrease in being liked