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Avoidant attachment style and conspiracy ideation☆

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ABSTRACT

Believing in conspiracy theories is a common phenomenon that is attracting attention from the scientific community because of its important individual- and social-level implications. Here we examine the association between attachment styles and conspiracy ideation. We anticipated that avoidant attachment style, because of its emphasis on self-reliance, its motivation to suppress psychological distress, and a Manichean view of the world based on a neat distinction between good and bad, would be associated with conspiracy ideation. We found support for this expectation in three studies (total $N = 2666$). Theoretical implications of the results and limitations are discussed.

1. Introduction

Conspiracy theories are explanations for negative events that are traced back to intentional actions performed by 'actors working together with a clear goal in mind, often unlawfully and in secret' (Swami & Furnham, 2014, p. 220). Many of these conjectures are non-falsifiable, lack reliable evidence, and are demonstrably false; however, they are widespread among the general public (e.g., Oliver & Wood, 2014). Belief in conspiracy theories has been shown to foster negative consequences, fomenting cynicism, civic disengagement, and social distrust (e.g., Douglas & Sutton, 2015; van der Linden, 2015).

Several psychological functions, personality traits, and attitudes have been connected with endorsement of conspiracy theories, such as openness, low agreeableness (Swami & Furnham, 2014), schizotypy (e.g., van Der Tempel & Alcock, 2015), collective narcissism (e.g., Cichocka, Marchlewska, Golec De Zavala, & Olechowski, 2016), stress (Swami et al., 2016; Swami, Weis, Lay, Barron, & Furnham, 2016), anomie, distrust, and threatening worldviews (e.g., Moulding et al., 2016). Here, we would elaborate a rationale to establish a link between individual differences in adult attachment styles, focusing particularly on the avoidant attachment style and conspiracy beliefs.

Attachment theory proposes that individuals' interpersonal experiences with their caregivers during childhood shape their perceptions and expectations of others' interpersonal responses throughout their life (e.g., Bowlby, 1980). The notion that differences in adult attachment are related to different beliefs about oneself and others in ways consistent with early attachment experiences is now widely accepted (Dykas & Cassidy, 2011; Mikulincer & Shaver, 2003).

Individual differences in attachment may be broadly conceptualised in terms of the basic divide between secure and insecure individuals. With respect to insecure individuals, two patterns of attachment – avoidance and anxiety – are generally distinguished (e.g., Crowell, Fraley, & Roisman, 2016). Individuals high in attachment anxiety perceive others to be emotionally unpredictable and unreliably responding to their affective needs, closely monitor significant others for cues of emotional unavailability, and are excessively preoccupied with closeness (e.g., Campbell & Marshall, 2011). The overarching function served by an anxious attachment style is a constant hyperactivation of the attachment system and inhibition of the exploratory system (Mikulincer & Shaver, 2003), with the aim of gaining a constant and predictable engagement of their attachment figures (Campbell & Marshall, 2011).

Individuals high in avoidance are characterised by a different strategy. In their early experiences they perceived their attachment figures as emotionally insensitive and only minimally able to effectively respond to their emotional distress. As a consequence, the overall function of the avoidant strategy is thought to be the deactivation of the attachment system in order to avoid the chronic frustrating and distressing experiences of parental emotional unavailability (e.g., Campbell & Marshall, 2011). To keep the attachment system deactivated, signals of distress and personal vulnerability must be minimised, while the individual is focused on autonomy and exploration. Consistently, individuals high in avoidant attachment appear to share an oversimplified representation of the interpersonal world tailored to minimise the impact of negative social outcomes on the self, thus preventing activation of the attachment system. The avoidant person's

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simplified representation of the world also features excessive levels of self-reliance, which fosters activation of the exploratory system, coupled with a basic expectation of the others' intentions as unreliable and potentially dangerous (e.g., Griffin & Bartholomew, 1994; Mikulincer & Shaver, 2003).

1.1. Attachment and conspiracy

Theorists have argued that insecure attachment styles are organized around specific core assumptions and goals (e.g., that others are unresponsive or untrustworthy, and therefore that one has to hyper-activate or deactivate the attachment system), and that, in turn, such assumptions fundamentally shape the interpretation of new social information (e.g., Dykas & Cassidy, 2011). Information framed in conspiratory terms and conspiracy beliefs, we argue, are more likely to be accepted by avoidant individuals because such beliefs conform closely with the avoidant person's core assumptions about the interpersonal world, his/her management of distressful events based upon self-reliance, and his/her preferred attributions to self and other. Also, they can be instrumental to keeping the attachment system deactivated in favor of an overactivation of the exploratory system.

More specifically, conspiracy ideation fits nicely with the avoidant individuals' core assumption that distress and distressful thoughts should be mitigated swiftly. Avoidant individuals consistently downplay the signals of personal distress, while maintaining a basic perception of others' intentions as untrustworthy. Perceiving others as untrustworthy makes avoidant individuals angry, and they express such anger and anxiety in a typical abstract, impersonal, and generalised fashion, rigidly interpreting the interpersonal sources of distress as due instead to a violation of moral abstract principles or rules of behaviour (e.g., Mikulincer & Florian, 2000). Such defensive operations may well foster a proneness to conspiracy beliefs where social sources of distress (negative unsettling social phenomena or events) are traced back to identifiable – yet distant and abstract – intentional perpetrators, maximally dissimilar in terms of power or status from the self and the victimised groups.

Another key goal or assumption for avoidant people is the preference for autonomy and self-reliance, because if one is autonomous there is no need to seek proximity, and to the attachment system can be kept deactivated. Endorsing conspiracy beliefs appears well-suited for maintaining illusory perceptions of control and self-reliance that obliterate the need to activate the attachment system (e.g., Landau, Kay, & Whitson, 2015). Although conspiracy theories deal with seemingly uncontrollable phenomena and therefore might apparently worsen perceptions of lack of control and unpredictability of the social world, being able to trace negative events back to malevolent plots could serve as a (likely inefficient) means of taking back control (Landau et al., 2015). Consistent with this view, it has been noted (Jolley & Douglas, 2014; Moulding et al., 2016) that conspiracy narratives reflect a motive to create ambiguity and unpredictability ('The world is dangerous and unpredictable') so as to devise an all-encompassing explanation ('Evil cliques are solely responsible for bringing about this awful outcome') that bolsters an illusory enhancement of one's feelings of control and autonomy, as well as allowing the expression of anxiety and rage in a morally righteous, "legitimate" fashion.

Finally, both conspiracy beliefs and avoidant assumptions converge in assuming a clear-cut and rigid view of good and evil. Such a morally absolutist, or Manichean, outlook is in keeping with the avoidant person's preference for rigid accounts of events that conform to unambiguous moral criteria that justify in impersonal terms their feelings of personal inadequacy and expectations of interpersonal refusals (Hesse, 2016). For avoidant individuals, moral rigidity and Manichaeism favor also the adoption of a maximum degree of dissimilarity and distance in terms of worth and morality between self and other, which is a strategy well-serving the overarching need to keep deactivated the attachment system (Mikulincer & Shaver, 2003). Within conspiracy narratives, Manichaeism, moral absolutism, rigidity and maximum self-other dissimilarity are key ingredients (e.g., Leone, Giacomantonio, & Lauriola, 2018; Oliver & Wood, 2014; Swami & Furnham, 2014). Hence, a conspiracy narrative construed as a rigid and Manichean moral tale may turn out to be particularly appealing for individuals with an avoidant attachment style.

To recap, we argue that avoidant individuals hold core assumptions and goals that fit with the features characterising conspiracy ideation. Such key common features include Manichaeism, attributing distress and evil to external immoral agents, illusory control, and mistrust of others. Such commonalities between the avoidant person's goals and the function and structure of conspiracy beliefs appear to make conspiracy ideation compatible with the avoidant person's preferences and fit with the avoidant person's main goal of deactivating the attachment system. As a result, we would expect a positive association between individual differences in avoidant style with conspiracy ideation. We tested the tenability of this anticipation in three studies conducted in Italy, where several conspiracy theories are popular (Mancosu, Vassallo, & Vezzoni, 2017). In the first study we relied on a relatively large sample to assess whether an association of avoidant attachment with conspiracy ideation could reliably be found, once the associations with the secure and anxious attachment styles were controlled for. In the second study, we aimed at replicating the finding when controlling for close associates of attachment styles (Dykas & Cassidy, 2011). In the third study, we focused on one of the key common features that in our view link avoidant attachment and conspiracy ideation, namely Manichaeism, and tested whether a measure tapping on Manichaeism mediated some of the association between avoidant style and conspiracy-related measures. In each study, we also tested whether the association of avoidant attachment with conspiracy ideation would be stronger compared with the associations observed for secure and anxious attachment.

Because of the wide conceptual gulf dividing the general attachment constructs and the more specific domain of conspiracy ideation, we expect any association to be small in absolute magnitude. Small associations have been found between similarly general dispositions and conspiracy ideation (e.g., openness, agreeableness – Swami & Furnham, 2014; self-esteem – Swami et al., 2011), and we expect therefore to detect relationships of similar magnitude. Nonetheless, because of the theoretical insights that can be developed from a reliable association between attachment and conspiracy ideation, we believe even small associations may be relevant.

2. Study 1

In Study 1 we aimed at providing a first test of the association between avoidant attachment and conspiracy ideation. We indexed conspiracy ideation aggregating measures aimed at capturing individual differences in conspiracy mentality, which assess a generic proneness to assign plausibility to conspiracies (e.g., Brotherton, French, & Pickering, 2013; Bruder, Haffke, Neave, Nouripanah, & Imhoff, 2013; Imhoff & Bruder, 2014; Wood, 2016), and a measure of specific conspiracy beliefs (Leone et al., 2018; Swami et al., 2011; Swami, Chamorro-Premuzic, & Furnham, 2010). We expected that such an index of conspiracy ideation would relate significantly with avoidant attachment, and that this association would be stronger than those involving secure and anxious attachment. We also anticipated that the avoidant attachment-conspiracy ideation association would remain detectable when controlling for the association of the secure and anxious attachment styles with conspiracy ideation.

2.1. Method

2.1.1. Sample and procedure

We asked (in exchange for course credits) psychology and medicine students of a large Italian university to recruit respondents for an online

questionnaire. Students helping with the recruitment were given the instruction of collecting respondents balanced for gender and as diverse as possible as for age and occupation. Recruiters were told not to fill in the questionnaire themselves and were unaware the hypotheses of the study. The online questionnaire was described as part of 'an investigation on psychological individual differences'. A total of 1390 respondents acceded to the online questionnaire. Of those, 145 individuals did not provide complete data, leaving N at 1245. An inspection of self-reported occupation revealed that non-student adults comprised 70.4% of respondents. Women were a slight majority (660, or 53%). Age of respondents varied widely: range 18–82, $M = 35.54$, $SD = 12.46$.[1]

2.1.2. Measures

2.1.2.1. Adult attachment. We measured adult attachment styles using the 18-item Adult Attachment Scales (Collins, 1996). Six-item scales measure three attachment styles: close (secure), avoidant, and anxious. We relied on this measure because it focuses on 'others' and not specifically on romantic partners, as do other well-known measures of adult attachment. The general 'other' reference appeared to be more consistent with our aims. The secure or close subscale measures the extent to which a person is comfortable with closeness and intimacy (e.g., 'I find it relatively easy to get close to people'). The avoidant (inverted 'depend') subscale assesses the extent to which a person is uncomfortable depending on others and believes that people cannot be depended on when needed (e.g., 'I find it difficult to allow myself to depend on others'). The anxious scale measures the extent to which a person is worried about being rejected and abandoned by others (e.g., 'I often worry that other people don't really love me'). Except for the anxiety score, reliabilities were low: secure $\alpha = 0.65$; anxious $\alpha = 0.86$; avoidant $\alpha = 0.56$.

2.1.2.2. Conspiracy ideation. Conspiracy ideation was indexed by aggregating measures of conspiracy mentality and of specific conspiracy beliefs. We assessed individual differences in conspiracy mentality using three scales. The Generic Conspiracist Beliefs scale (GCB; Brotherton et al., 2013) includes 15 items covering different conspiracy-related domains, such as government malfeasance, extraterrestrial cover-up, malevolent global cliques, health-related plots, and control of information conspiracies (e.g., 'A small, secret group of people is responsible for making all major world decisions, such as going to war'). Reliability was satisfactory ($\alpha = 0.90$). We also used the Conspiracy Mentality Scale (CMS; Imhoff & Bruder, 2014), a 12-item scale that taps mainly suspiciousness of government-led and powerful clique-related conspiracies (e.g., 'There are secret organisations that have great influence on political decisions') ($\alpha = 0.89$). Conspiracy mentality also was assessed through the 5-item Conspiracy Mentality Questionnaire (CMQ; Bruder et al., 2013), which focuses on generic conspiracies with good cross-cultural generalisability (e.g., 'I think that government agencies closely monitor all citizens') ($\alpha = 0.87$). Finally, 14 Conspiracy Beliefs (CB; Leone et al., 2018) were measured to include a multiplicity of events and concerns such as: diseases (e.g., 'A cure for cancer is already available, but the pharmaceutical industry keeps it secret in order to maintain profits from chemotherapies'); terrorism ('The Paris attacks of November 13, 2015 were actually plotted by Western governments to justify war in the Middle East'); the 9/11 attacks ('The U.S. government knew in advance about the 9/11 attacks, and deliberately decided not to stop them'); economic crises ('The financial crisis has been purposefully unleashed to foster political and financial interests'). We also tapped conspiracy theories enjoying wide currency in Italy (Mancosu et al., 2017): chemtrails (e.g., 'Groups of powerful people use chemtrails to poison the air, or to manipulate the environment'), and vaccines (e.g., 'Vaccines are useless and dangerous, they are only instrumental to the financial interests of pharmaceutical companies'). This scale is similar in its conceptualisation and content with other measures of specific conspiracy beliefs (e.g., Swami et al., 2010, 2011). Appendix A reports the full list of items and factor loadings across Studies 1–3. Tucker's phi coefficients were all above .99, which indicated that the pattern of the one-dimensional factor loadings across the three samples were virtually identical (Lorenzo-Seva & ten Berge, 2006). Reliability was satisfactory ($\alpha = 0.90$). Previous results pointed to the validity of this scale (Leone et al., 2018).

The three conspiracy mentality scales and the specific beliefs measure were substantially intercorrelated (rs range: 0.64–0.77). In the analyses we used as a dependent variable the factor-score obtained by principal component analysis and extraction of one component summarising the four scores (loadings: CMS = 0.92; GCB = 0.90, CMQ = 0.89, beliefs = 0.85). The α reliability coefficient for such composite score was 0.91.

2.2. Results and discussion

Correlations among variables are reported in Table 1. As previously anticipated, because of the conceptual distance in terms of abstractedness/specificity between measures of adult attachment and operationalisations of conspiracy ideation, the magnitude of the correlations was relatively small. However, the significant correlation observed for avoidant attachment was comparable in magnitude with associations found for general traits such as openness and self-esteem (Swami et al., 2011; Swami & Furnham, 2014). Anxious attachment was more weakly associated with conspiracy ideation, albeit still significantly. Secure attachment was not significantly related with conspiracy ideation ($p = .053$). Attachment styles were all intercorrelated. As demonstrated by the results of r to z tests (Steiger, 1980), the positive association of avoidant attachment with conspiracy ideation was larger than the positive correlation found for anxious attachment ($z = 3.76$, $p < .001$) and the negative coefficient found for secure attachment ($z = 5.67$, $p < .001$). Overall, the direction and the relative strength of the associations fitted fairly well with our expectations.

To investigate the unique associations of each attachment style with conspiracy ideation we ran a multiple regression analysis, where conspiracy ideation was regressed on the three attachment scores. The regression accounted for a significant although small portion of variance in conspiracy ideation, $R^2 = 0.043$; $F(3,1241) = 18.75$, $p < .001$). Neither secure attachment, $b = 0.04$, SE = 0.046, $t = 0.85$, $p = .40$ nor anxious attachment, $b = 0.01$, SE = 0.035, $t = 0.41$, $p = .68$ uniquely related with conspiracy ideation. Instead, as anticipated, avoidant attachment related uniquely with conspiracy ideation, $b = 0.33$, SE = 0.05, $t = 6.63$, $p < .001$; the standardised regression coefficient was $\beta = 0.21$. Taking a hierarchical regression perspective, the inclusion of secure and anxious attachment into the regression equation, once the effect for avoidant attachment was accounted for, did not increase the amount of explained variance in conspiracy ideation, $\Delta R^2 = 0.001$, $F(2,1241) = 0.374$, $p = .69$). Conversely, avoidant attachment increased significantly the variance accounted for in conspiracy ideation by secure and anxious attachment, $\Delta R^2 = 0.034$, $F(1,1241) = 43.99$, $p < .001$. Notably, anxious attachment was related with conspiracy ideation when avoidant attachment was not controlled for (standardised regression coefficient $\beta = 0.09$, $p = .005$), but when avoidant attachment was included in the regression the association vanished ($\beta = 0.01$, $p = .68$), suggesting that the significant zero-order association of anxious attachment and conspiracy ideation was spuriously affected by the association between avoidant and anxious attachment.

Results supported the construct that avoidant attachment might be related with conspiracy ideation. The results provided a first step in articulating the notion that the defensive cognitive strategies

[1] Controlling for age, occupational status and their interaction with avoidant attachment did not alter the results in any of the three studies.

Table 1
Study 1. Descriptive Statistics and Zero-order correlations, Study 1 (N = 1245).

	M (SD)	1	2	3
1. Conspiracy ideation	0 (1)[a]	–		
2. Secure attachment	3.49 (0.67)	−0.055	–	–
3. Anxious attachment	2.49 (0.93)	0.096*	−0.403*	–
4. Avoidant attachment	3.11 (0.64)	0.207*	−0.361*	0.442*

*$p \leq .001$.
[a]Conspiracy ideation is a factor score.
Means and standard deviations of the scales composing this factor are the following: CMS, M = 4.65, SD = 1.09; GCB, M = 2.85, SD = 0.78; CMQ, M = 7.31, SD = 2.07; CB, M = 2.57, SD = 0.76).

supporting an adult avoidant attachment style resonate well with adopting a conspiracy mentality in navigating the social world. Although results were in line with expectations, Dykas and Cassidy (2011) pointed out explicitly that it is crucial to investigate the associations of adult attachment styles, taking into account at least some potential confounds. In Study 2 we tried to seek a replication of results in an independent sample, controlling for measures of depression and anxiety, which are well-known correlates of attachment styles, and have also been connected with conspiracy ideation (Dykas & Cassidy, 2011; Grzesiak-Feldman, 2013; Swami, Furnham, et al., 2016; Swami, Weis, et al., 2016).

3. Study 2

3.1. Method

3.1.1. Sample and procedure

We used the same procedure outlined for Study 1, asking psychology students to recruit a diverse sample of respondents. A total of 370 Italian respondents acceded to the questionnaire. After deletion of incomplete questionnaires, the final sample size was 321. Non-student adults comprised a majority (71%) of the final sample. Women were a slight majority (173, or about 54%). Age of respondents varied widely: range: 21–75, M = 36.62, SD = 13.39.

3.1.2. Measures

In Study 2 we used the same measures described in Study 1 for adult attachment, conspiracy mentality, and conspiracy beliefs. Anxious attachment showed satisfactory reliability (0.85), whilst lower reliabilities were found for secure (0.67) and avoidant (0.57) attachment. Satisfactory reliabilities were observed for the Generic Conspiracist Beliefs Scale (0.88), the Conspiracy Mentality Questionnaire (0.86), the Conspiracy Mentality Scale (0.86), and the specific conspiracy beliefs scale (0.88). As in Study 1, to compute an index of conspiracy ideation we obtained the factor-score composite summarising the four scores tapping into conspiracy (loadings: CMS = 0.90; GCB = 0.89, CMQ = 0.88, conspiracy beliefs = 0.81). This index proved reliable (α = 0.89), and we used it as a dependent variable in the analysis.

Measures of depression and anxiety were also administered. We adopted the Beck Depression Inventory II (Beck, Steer, & Brown, 1996) as a measure of depression levels. It consists of 21 items tapping into the affective and somatic symptoms of depression (e.g., 'self-dislike', 'self-criticalness', 'sadness', 'pessimism'). Scores on each item range from 0 to 3, with higher scores indicating higher severity. The scale score achieved satisfactory reliability (α = 0.80). Anxiety was measured using the trait subscale of the State-Trait Anxiety Inventory (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983), a 20-item scale that uses a 4-point response format to tap into general anxiety and the tendency to worry and feel stressed (e.g., 'worry over unimportant things'; 'bothered by unimportant thoughts' – α = 0.91).

Table 2
Study 2. Zero-order correlations (N = 321).

	M (SD)	1	2	3	4	5
1. Conspiracy ideation	0 (1)[a]	–				–
2. Secure attachment	3.52 (0.65)	0.018	–			–
3. Anxious attachment	2.19 (0.82)	0.080	−0.375**	–		–
4. Avoidant attachment	3.10 (0.59)	0.246**	−0.362**	0.489**	–	–
5. Depression	1.39 (0.29)	0.122*	−0.237**	0.439**	0.306**	–
6. Anxiety	2.15 (0.49)	0.048	−0.308**	0.564**	0.295**	0.705**

*$p < .05$.
**$p < .001$.
[a]Conspiracy ideation is a factor score.
Means and standard deviations of the scales composing this factor are the following: CMS, M = 5.14, SD = 1.00; GCB, M = 3.14, SD = 0.73; CMQ, M = 7.96, SD = 1.84; CB, M = 2.92, SD = 0.74).

3.2. Results

Correlations among variables are reported in Table 2. As in Study 1, conspiracy ideation was significantly related with avoidant attachment. Neither anxious nor secure attachment scores related significantly with conspiracy ideation. More importantly, as revealed by r to z tests (Steiger, 1980), and replicating Study 1 results, the correlation of avoidant attachment with conspiracy ideation was stronger compared with the correlations of the other attachment scores with conspiracy ideation (z = 2.99, p = .003 for the avoidant vs anxious attachment comparison, and z = 2.53, p = .011 for the avoidant vs secure attachment comparison). Conspiracy ideation related significantly also with depression. Depression and anxiety correlated negatively with secure attachment and positively with both insecure scores.

To test whether a unique association could be found between avoidant attachment and conspiracy ideation once depression and anxiety scores were controlled for, conspiracy ideation was regressed on the three attachment styles and the depression and anxiety scores. The regression accounted for a significant although small portion of variance in conspiracy ideation, R^2 = 0.082; $F(5,315)$ = 5.64, $p < .001$. Neither secure attachment, b = 0.18, SE = 0.092, t = 1.93, p = .054 nor anxious attachment, b = −0.038, SE = 0.088, t = 0.43, p = .668 were uniquely associated with conspiracy ideation. Instead, as in Study 1, avoidant attachment related uniquely with conspiracy ideation, b = 0.48, SE = 0.108, t = 4.48, $p < .001$; the standardised regression coefficient was β = 0.29.

Taking a hierarchical regression perspective, once the anxiety and depression scores were taken into account, adding anxious and close attachment scores did not increase the proportion of variance accounted for in conspiracy ideation, ΔR^2 = 0.006, $F(2,316)$ = 0.947, p = .39; instead, when avoidant attachment was added to the equation the proportion of variance accounted for in conspiracy ideation increased significantly, ΔR^2 = 0.058, $F(1,315)$ = 20.03, $p < .001$.

Results of Study 2 replicated closely the pattern of associations found in Study 1. As an indication of stability of results, it could be noted that the zero-order correlation of avoidant attachment with conspiracy ideation did not differ significantly across the two samples, z = 0.65, p = .51. Similarly, the regression coefficients found for avoidant attachment across Studies 1 and 2 can be considered equal, z = 1.29, p = .20. Finally, Study 2 also suggested that the linkage between avoidant attachment and conspiracy ideation could be detected even when controlling for the correlates of the attachment styles, depression, and anxiety (Dykas & Cassidy, 2011).

Although results looked fairly consistent across the two studies, we

deemed it important to seek further replication, and to investigate one of the possible mechanisms sustaining the association between avoidant attachment and conspiracy proneness, namely Manichaeism.

4. Study 3

In Study 3, we investigated the linkages between avoidant attachment and a rigid, Manichean, moral style (moral absolutism/splitting; Lauriola, Foschi, & Marchegiani, 2015), which appears to resonate with avoidant style's cognitive and motivational features (Mikulincer & Shaver, 2003), as well as the us-vs-them frame-set that is typical of conspiracy ideation (Leone et al., 2018; Oliver & Wood, 2014). Manichaeism appears to resonate with some defensive and projective processes frequently observed in the avoidant attachment style (Hesse, 2016). A Manichean worldview –which separates neatly between right and wrong, blameless and blameworthy – may become a key ingredient in facilitating the tendency to perceive, infer, and maintain maximum dissimilarity of self and other, a core assumption and goal of the avoidant person (e.g., Mikulincer & Shaver, 2003). Hence, we would anticipate that Manichaeism should be associated with avoidant attachment. Because previous research suggests that Manichaeism would relate to conspiracy ideation (Leone et al., 2018; Oliver & Wood, 2014), we might expect Manichaeism to mediate a significant portion of the association between avoidant attachment and conspiracy ideation.

4.1. Method

4.1.1. Sample and procedure

Relying on the same recruiting procedure used in Studies 1 and 2, a total of 1315 individuals completed an online questionnaire. Once incomplete questionnaires were excluded, a final sample of 1100 Italian participants was analysed. Non-student adult respondents comprised about half of the sample (42%), with 700 (64%) being women. The mean age was 29.03 (SD = 13.67, range 18–76).

4.1.2. Measures

Secure (α = 0.69), anxious (α = 0.86) and avoidant attachment (α = 0.69), and specific conspiracy beliefs (α = 0.87) were measured as in the previous studies. In this sample the conspiracy beliefs scale was constituted by 13 rather than 14 items as in Studies 1 and 2 (see Appendix A). Conspiracy mentality was measured only with the 5-item CMQ (Bruder et al., 2013) to keep the online questionnaire short (α = 0.81). We used an aggregate indicator of conspiracy ideation derived as the factor-score obtained by a principal component analysis on the conspiracy beliefs and the CMQ (loadings = 0.87). This aggregate score showed satisfactory reliability considering that it was obtained as a combination of only two scale-scores (α = 0.68).

Moral absolutism/splitting, the rigid and stereotyped view that reflects the black-and-white thinking related to ambiguous behaviours in terms of moral opposites, was measured with a 10-item scale (Lauriola et al., 2015; Leone et al., 2018). This measure taps into the more abstract concept of Manichaeism. Exemplar items included 'Him who lies once, would lie forever', 'When honesty and loyalty are concerned, there are no shades of gray, just black or white', and 'It's not true that one can find some good even in an evil person: If one is evil, he/she is evil'. Reliability was satisfactory (α = 0.84).

4.2. Results and discussion

Table 3 reports zero-order associations among variables. As in Studies 1 and 2, avoidant attachment correlated with conspiracy ideation. Interestingly, the coefficient found in Study 3 did not differ significantly (z = 1.17, p = .24) from the one found in Study 1 (reported in Table 1), nor from the correlation (reported in Table 2) found in Study 2 (z = 1.41, p = .16). The association between avoidant attachment and conspiracy ideation, then, was fairly stable across samples. As expected, moral absolutism/splitting was related with avoidant attachment and with conspiracy ideation. Moral/absolutism splitting related significantly also with anxious attachment. As was the case in Studies 1 and 2, the correlation of conspiracy ideation with avoidant attachment was significantly stronger than the correlations of conspiracy ideation with anxious attachment, z = 3.76, $p < .001$, and of conspiracy ideation with secure attachment, z = 3.05, $p < .002$.

Table 3
Study 3. Zero-order correlations (N = 1100).

	M (SD)	1	2	3	4	5
1. Conspiracy ideation	0 (1)[a]	–				
2. Moral absolutism	3.49 (1.22)	0.25**	–			
3. Secure attachment	3.37 (0.75)	0.01	−0.04	–		
4. Anxious attachment	2.82 (1.00)	0.04	0.06*	−0.35**	–	
5. Avoidant attachment	3.22 (0.61)	0.16**	0.14**	−0.32**	0.43**	–

*$p < .05$.
**$p < .001$.
[a]Conspiracy ideation is a factor score.
Means and standard deviations of the scales composing this factor are the following: CMQ, M = 7.02, SD = 1.68; CB, M = 2.75, SD = 0.77).

To estimate the anticipated direct and indirect associations (through moral absolutism/splitting) of avoidant attachment with conspiracy ideation, we used the SPSS PROCESS MACRO (Hayes, 2013; Model 4). Close and anxious attachment were controlled for in estimating avoidant attachment associations with moral absolutism/splitting and with conspiracy ideation. Fig. 1 displays a graphic depiction of the network of associations and reports the regression coefficients.

The two regression equations having moral absolutism/splitting and conspiracy ideation both turned out to be significant, $F(3, 1096) = 7.58$, $p = .0001$, and $F(4, 1095) = 24.72$, $p < .0001$, accounting for 2% and 8% of observed variance, respectively, for moral absolutism/splitting and conspiracy ideation. As expected, only avoidant attachment related with moral absolutism/splitting ($\beta = 0.14$, $p < .0001$). In turn, moral absolutism/splitting related uniquely with conspiracy ideation ($\beta = 0.23$, $p < .0001$). A significant direct association of avoidant attachment with conspiracy ideation was also found ($\beta = 0.16$, $p < .0001$). As anticipated, moral absolutism/splitting mediated a significant, albeit small, portion of the total association between avoidant attachment and conspiracy ideation: standardised indirect effect = 0.05, 95% C.I. [0.027, 0.086].

Results of Study 3 replicated the associations of avoidant style with conspiracy ideation. Study 3 results also appeared consistent with the idea that Manichaeism, measured as individual differences in moral absolutism/splitting, might figure among the processes that resonate both with the avoidant person and the individual heeding to conspiracy theories.

4.3. Meta-analysis of results

As a final recap on the reliability of the association between attachment and conspiracy ideation, we deemed it important to summarise the results obtained across the three samples with a brief meta-analysis based on the zero-order correlations reported in Tables 1–3. To obtain point-estimates of the associations and their standard errors across studies, we relied on the methods and tools described by Suurmond, Rhee, and Hak (2017). Regarding secure attachment, the point-estimate effect across the three samples was −0.02 (SE = 0.028), yielding a 95% C.I. [−0.07 to 0.03], thus including zero (z = 0.71, p = .48). The point estimate for the correlation of anxious attachment with conspiracy ideation was 0.07 (SE = 0.018, 95% C.I. [0.03, 0.11]) which pointed to a positive (z = 3.79, $p < .001$), albeit very small, association across studies. Finally, for avoidant attachment a reliable association was found: 0.19, SE = 0.022 [95% C.I.: 0.15, 0.24], z = 8.69, $p < .0001$. This meta-analytical point-estimate correlation of

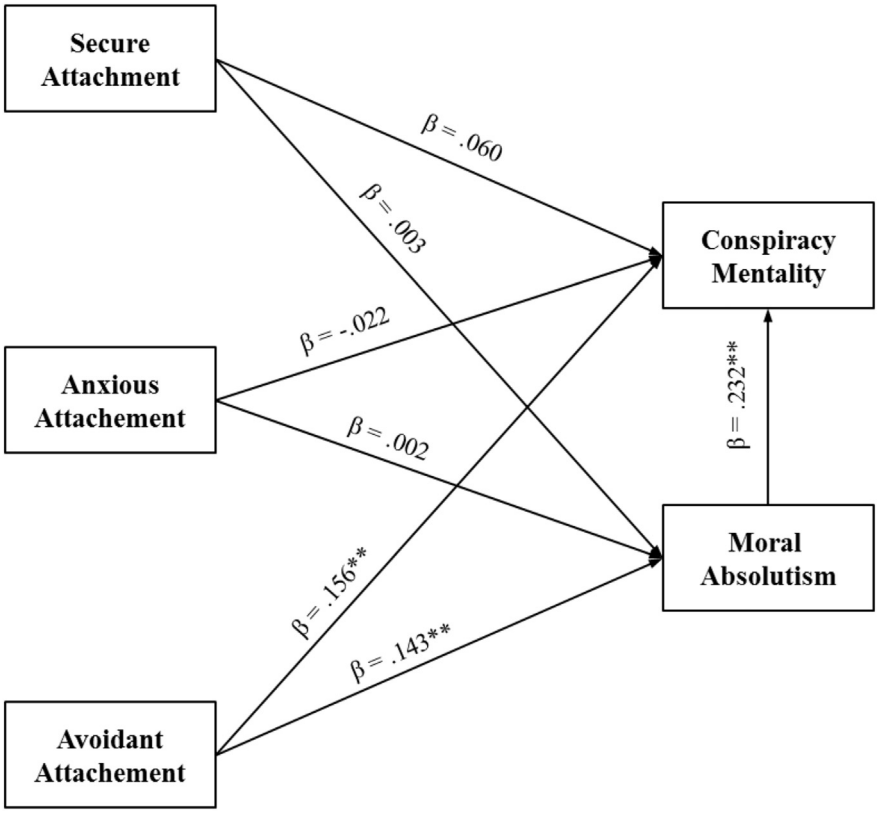

Fig. 1. Mediation model, standardised coefficients (Study 3, N = 1100).
Note: $^{*}p < .05$; $^{**}p < .01$.

avoidant attachment with conspiracy ideation was significantly stronger compared with the point-estimate associations found for anxious attachment and for secure attachment, as attested to by *r* to *z* tests (Steiger, 1980), $z = 5.93$ ($p < .0001$), and $z = 6.70$ ($p < .0001$), respectively, for the correlations involving anxious and secure attachment. This meta-analytical summary reinforces the notion that avoidant attachment was the stronger correlate of conspiracy ideation, compared with the other adult attachment styles.

5. General discussion

We argued that adult avoidant attachment might be related with conspiracy ideation. This association was detected in three independent samples: Study 1 found the expected association; Study 2 replicated the pattern, ruling out two relevant potential confounders; Study 3 yielded a third replication of the general pattern of associations and rendered preliminary empirical data on a conceptual common (Manichaeism) feature of both avoidant attachment and conspiracy ideation.

Notwithstanding the fairly successful replication across samples, the results should be considered only as a first step in conceptualising and empirically exploring the underpinnings driving the association of avoidant attachment with conspiracy. Besides, the magnitude of the association was small. Such magnitude was not unexpected, because of the large conceptual distance between attachment constructs and the conspiracy domain. Nevertheless, it must be noted that our finding was comparable in magnitude with, or even stronger than, other important associations between conspiracy ideation and other general constructs such as openness ($r = 0.19$), self-esteem ($r = -0.20$), agreeableness ($r = -0.07$; Swami et al., 2011), and need for closure (r = 0.07; Swami, Voracek, Stieger, Tran, & Furnham, 2014). Instead, the size of the effect reported here was smaller when compared to those found with more specific and narrow constructs such as anomie ($r = 0.51$; Moulding et al., 2016), suspiciousness ($r = 0.35$; Swami, Weis, et al., 2016) and paranormal belief ($r = 0.38$; Drinkwater, Dagnall, & Parker, 2012). Also, the association we found did not compare unfavorably in terms of magnitude with those found with other theoretically important associates of conspiracy ideation as paranoid thinking style ($r = 0.23$) and schizotypal general tendency ($r = 0.22$, Barron, Morgan, Towell, Altemeyer, & Swami, 2014).

Our theoretical reasoning pointed to a positive association of avoidant attachment with conspiracy ideation. Indeed, the results of the three studies supported our anticipation. Yet, our internal meta-analysis also yielded a significant association of anxious attachment with conspiracy beliefs, albeit smaller in magnitude compared to what was found for avoidant attachment. It might be theoretically plausible to account for the association of anxious attachment with conspiracy ideation, stressing the notion that conspiracy theories are rationalisations of intrinsically threatening, frightening, and ultimately anxiety-eliciting events. Therefore, anxiously attached persons in particular, and anxious individuals in general, could be sensitive to the content of conspiracy theories, and therefore more likely to endorse them (Grzesiak-Feldman, 2013). Nonetheless, we would reiterate that we found avoidant attachment to be a significantly stronger associate of conspiracy ideation compared with anxious attachment, and would argue that the features that discriminate between the forms of adult anxious and avoidant attachment are key in rendering conspiracy ideation more alluring to the avoidant person.

Mikulincer and Shaver (2003) described how the anxious attachment style maximizes *similarities* between self and other. Instead, the avoidant person in his/her goal of maintaining separation from others maximizes the perceived *dissimilarity* between self and other. Perceptions of self-other similarity (anxious attachment) are inconsistent with how conspiracy beliefs are framed (us vs. them) and with the moral Manichaeism that relates with conspiracy mentality. Conversely, perceptions of self-other dissimilarity (avoidant attachment) resonate with how conspiracy beliefs are framed and with the clear-cut moral

absolutist stance that is shared with the conspiracy mentality (Leone et al., 2018).

We would also emphasise that the overarching divergence of anxious and avoidant styles on the hyperactivation vs deactivation of the attachment system helps explain the appeal of conspiracy ideation for avoidant persons and the weaker inclination of those with an anxious attachment style to endorse conspiracy beliefs. The negative social events and phenomena that constitute the *explanandum* of conspiracy theories (war, death, poverty, inequality, injustice) are cues to the fragility of human life and well-being. Such cues may trigger the attachment system (Mikulincer & Florian, 2000). For the anxious person, this would translate to a hyperactivation of the attachment system and a consequent anxious reaction. In this anxious mindset, adopting a conspiracy framework would not assuage much the preoccupations spurned by a hyperactivated attachment system, because conspiracy narratives do not include any reassurance about the availability of relational proximity: conspiracy theories provide explanations, not consolation and reassurance. Instead, in the eyes of the avoidant person, the adoption of seemingly rational, all-encompassing conspiracy theories accommodates unsettling events within a framework that does not call for activation of the attachment system; quite the contrary, adopting such seemingly rational and all-encompassing explanations might help the avoidant person turn away from relational and proximity needs and to deactivate the attachment system.

To summarise, we could speculate that the unsettling events that are the key content of conspiracy theories tend to elicit fear and uncertainty in both anxious and avoidant persons; however, only avoidant persons would find a viable response to these uncertainties in endorsing the conspiracy theories as a means of reducing distress by acquiring a sort of illusionary control and aggrandised sense of self-reliance. This in turn helps the avoidant person attain his/her core goal of deactivating the attachment system. Instead, the conspiracy mindset goes against the core goal of anxious attached individuals, that is attaining reassuring relational proximity. Our results could read as consistent with such speculation. On the one hand, the smaller association of anxious attachment with conspiracy ideation might be accounted for by fear and distress as a motive to entertain conspiracy-based explanations. On the other hand, the stronger association found for avoidant attachment might be explained by the instrumentality of conspiracy ideation in facilitating the deactivation of the attachment system.

5.1. Limitations

We must acknowledge, first, the limitations inherent in our reliance on a cross-sectional correlational design: the data and results did not enable us to draw causal inferences. Our main goal was to establish the empirical plausibility of certain patterns of association as a first step in addressing the possibility of linkages between attachment and conspiracy ideation, and we did not aim at supporting any causal claim. Second, our data were collected in only one country (Italy) and thus results might reflect national and cultural influences. Further research is needed to ascertain the generalisability of our findings across national contexts. Third, although the sample sizes appear adequate for the research questions we posed, we did not have access to representative samples. Finally, the associations we found were small. Nonetheless, they did not appear much smaller – in fact, they were often similar in magnitude – than the associations found for several well-established associates of conspiracy ideation. Moreover, even small associations can turn out to be theoretically insightful. Having established a linkage between attachment models with conspiracy ideation, this may allow researchers to exploit the interpretative matrix of attachment theory and its rich conceptual toolbox to clarify better the dynamics of conspiracy ideation, and the reasons why specific variables turn out to be associated with conspiracy ideation. For instance, the connections between trust, anomie (or lack of control), and Manicheism with conspiracy ideation may be clarified conceptually borrowing from the functions that attachment theory assigns to these variables in terms of hyper- vs deactivation of the attachment system. Similarly, the association of conspiracy ideation with openness could be interpreted as linked with the strong activation of the exploration system typical among avoidant individuals.

6. Conclusion

One of the general motives identified by scholars as underlying the appeal of conspiracy theories is their ability to provide structure and the illusion of control when facing an unstructured, unpredictable, and ultimately threatening reality (e.g., Imhoff & Bruder, 2014). Affirming structure by means of endorsing simple accounts of threatening events enhances – possibly ephemerally and with ultimately maladaptive long-term consequences – a sense of self-reliance and autonomy (Landau et al., 2015). Such processes appear particularly fitting with the core assumptions of the avoidant person, namely the value of self-reliance and the need to neutralise distressing information (Dykas & Cassidy, 2011). It is important to emphasise that such strategies and priorities imply costs. Belief in conspiracy theories often leads to increased civic cynicism and social inaction, among other negative consequences (e.g., Douglas & Sutton, 2015; Jolley & Douglas, 2014; van der Linden, 2015). Similarly, the avoidant person's quest for self-reliance and control might further itself sustain a working model that chronically validates avoidant perceptions and beliefs. Thus, eventually, the attempt to reduce discomfort and deactivate the attachment by adopting a conspiracy mindset might lead to poor outcomes for the self and others.

Appendix A. Items and component loadings of the Conspiracy Beliefs Scale

		Factor loadings		
	Items	Study 1	Study 2	Study 3
1	The U.S. government did not prevent the 9/11 attacks in order to justify the Afghanistan and Iraq campaigns.	0.671	0.647	0.665
2	A cure for cancer already exists, but the pharmaceutical industrial complex keeps it secret in order to maximise its profits selling chemo.	0.748	0.732	0.701
3	The 2008 financial crisis and the ensuing recession represent the intended result of deliberate actions by banks, financial speculators and multinational corporations.	0.639	0.602	0.621
4	The financial crises of the last decade have been deliberately caused by political and financial authorities.	0.709	0.712	0.636
5	The U.S. government knew in advance about the 9/11 attacks, and deliberately decided not to stop them.	0.722	0.690	0.725
6	Soft-drinks corporations add addictive substances in their products.	0.537	0.547	0.516
7	Infective diseases, such as Ebola, are deliberately spread by governments and pharmaceutical multinationals.	0.791	0.783	0.747
8	The so-called Islamic State does not really exist; it is a smoke-screen concocted by Western Governmental Agencies.	0.668	0.569	0.629

9	LGBT groups have a plan to turn people into homosexuals by means of bogus “gender theories”.	0.499	0.454	0.456
10	The assassination of judge Giacomini was committed by mafia killers with the political complicity of the Italian Government.	0.633	0.568	0.599
11	Vaccines are useless and dangerous, they are only instrumental to the financial interests of pharmaceutical companies.	0.591	0.535	0.579
12	Groups of powerful people use chemtrails to poison the air, or to manipulate the environment.	0.691	0.683	0.638
13	Few groups of powerful individuals (Bilderberg Group, Trilateral Commission, the Rotschild family, the Free Masonry, etc.) secretly rule the world.	0.714	0.642	0.675
14	Attacks in Paris of 11/13 were organized by western governments to justify war in Middle East.	0.763	0.686	–

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