Erratum note

In this paper:
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A mistake appears: the term "cross-sectional" (that appears as follows: p. 153, Abstract; p. 160 4th paragr; p.161 2nd paragr; p. 162, last pargr; p.163, 2nd pargr, and p. 164, 2nd pargr.) should actually be **"correlational"**.

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Depressiogenic Cognition and Insecure Attachment: A Motivational Hypothesis

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Abstract

A number of studies suggest that dysfunctional and depressiogenic cognitive styles have their origin in insecure attachment relationships between child and caregiver and may be further consolidated in unsupportive adult relationships. A ~~cross-sectional~~ study was conducted to identify potential associations among preoccupied and fearful attachment styles, recollections of parental caregiving, and three types of dysfunctional cognition. The findings confirmed the hypotheses that preoccupied and fearful attachment in adult relationships, as well as problematic caregiving in childhood, were associated with depressiogenic and other dysfunctional cognition, most notably generalisation. A motivational hypothesis of cognitive dysfunction is discussed: generalisation may constitute a sub-optimal mechanism of achieving stability in a precarious attachment representation at the cost of increasing vulnerability to depression.

Keywords: attachment, depressiogenic cognition, generalisation, preoccupied, fearful.

Resumen

Diversos estudios sugieren que los estilos cognitivos disfuncional y depresógeno tienen su origen en una relación de apego insegura entre el niño y el cuidador, y pueden consolidarse porteriormente en una relaciones adulta faltas de apoyo. Se llevó a cabo un estudio transversal para identificar potenciales asociaciones entre estilos de apego preocupados y miedosos, recuerdos del cuidado paterno y tres tipos de cognición disfuncional. Los hallazgos confirman la hipótesis de que el apego preocupado y miedoso en las relaciones adultas, así como los problemas de cuidados en la infancia, estaban asociados con el estilo cognitivo depresógeno y otras cogniciones disfuncionales, principalmente la generalización. Se discute una hipótesis motivacional de la disfunción cognitiva en la que la generalización puede constituir un mecanismo sub-óptimo de lograr estabilidad en una representación de apego precario con el costo de aumentar la vulnerabilidad a la depresión.

Palabras clave: apego, cognición depresógena, generalización, preocupación, miedo.

A number of studies suggest that depression, as well as other forms of psychopathology, emerge due to and are maintained by dysfunctional cognitive processes (Beck, 1967; Seligman, Abramson, Semmel, & von Baeyer, 1979). Many authors claim that such processes originate in problematic parent-child interaction and become consolidated as development unfolds (Alloy, Abramson, Tashman, Berrebbi, Hogan, Whitehouse *et al.*, 2001; Baldwin, 1992; Bowlby, 1980).

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Attachment theory is a particularly influential line of research that has generated important empirical findings, as well as theoretical concepts, to account for the links among parenting quality, cognitive processes, interpersonal relationships, and psychopathology (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1980; Main, 1991). According to the attachment researchers, interactions with caregivers provide the main building blocks for the construction of representational structures, or internal working models, that organise information processing in childhood and adulthood (Bretherton & Munholland, 1999; Collins & Read, 1994). Following this approach, inappropriate caregiving results in the creation of insecure attachment representations, or the implicit understanding that important others are emotionally unavailable and the self unworthy of love and care.

By providing a guide of how others and the self are likely to respond, the main function of attachment representations is to prepare the child, and later the adult, for future stressful events in which the attachment system would tend to be activated. As a result, therefore, negative working models of self and other would be inclined to guide individuals to conflictual interactions and relationships with others, as the individual would expect an unsupportive response and will start defending against it in advance by exhibiting either overt hostility or withdrawal. Regulating emotion, cognition, and behaviour, insecure attachment representations tend to confirm, rather than disconfirm themselves in the presence of new experience, rendering the individual increasingly unable to deal with distress and, ultimately, vulnerable to psychological disorder.

Regarding depression in particular, attachment research provides evidence that insecurely attached individuals are vulnerable to developing the disorder, as their experience of parental neglect, abandonment, criticism, or death, results in negative expectations about the self and important others. Such expectations tend to orientate these individuals towards the establishment of unsupportive and conflictual relationships, which feedback on and further strengthen problematic cognitive, emotional, and behavioural processes associated with the disorder (Hammen, 2002; Simpson & Rholes, 2004; Williams & Riskind, 2004). Since the understanding of dysfunctional cognitive processes has been regarded as vital in depression, a number of empirical studies report associations among various aspects of attachment representations and depressiogenic cognitions: some suggest that dysfunctional attitudes mediate the relationship of attachment anxiety and avoidance in adult relationships with depression (Hankin, Kassel, & Abela, 2005; Roberts, Gotlib, & Kassel, 1996), while others associate depressiogenic thinking with retrospective accounts of poor parental bonding (Ingram, Bailey, & Siegle, 2004). In addition, a number of studies indicate that insecurity of attachment and cognitive difficulties are important characteristics of depression in children (Cicchetti & Toth, 1998).

A particular type of cognitive vulnerability very consistently associated with depressive symptomatology is generalisation, or the tendency to draw unfounded general conclusions about the incompetence and worthlessness of the self, typically in the face of an experienced difficulty (MacLeod & Williams, 1990; Carver, 1998). A number of hypotheses have attempted to account for this phenomenon, including cognitive explanations relating it to the inability of the self to be organised in distinct compartmentalised units (Linville, 1987) or to control life at an appropriately low level

of abstraction (Carver, 1998) and psychodynamic ones, seeing it as an expression of a punishing superego (Roberts and Monroe, 1994). In addition, a number of studies seem to suggest that both generalisation and depression are related to labile, as opposed to a relatively stable negative self-esteem (Butler, Hokanson, & Flynn, 1994; Roberts and Monroe, 1994). Nonetheless, no systematic attempt has been made to understand overgeneralisation within an attachment theory framework.

It is evident that the capacity of attachment representations to predict future events, and therefore their principle function, becomes possible through the ability of the mind to generalise. However, although this ability is ingrained with the attachment system as it is with the rest of human cognition, the inseparable interweaving of attachment related cognition with affect makes it more vulnerable to a number of defensive distortions (Bowlby, 1982; Main, Kaplan, & Cassidy, 1985). Insecurely attached individuals, who generalise about the self and others on the basis of their previous negative experience with caregivers and intimate partners, seem to engage in affect-laden distorted cognitions, tightening a vicious circle that interactively reinforces insecurity of attachment, generalisation (as well as other forms of dysfunctional cognition), unsupportive interpersonal relationships, and depressive symptomatology.

Exploring the phenomenon within the conceptual framework suggested by Bartholomew and Horowitz (1991), a number of studies have indicated that depression is associated with only two of the three styles of insecure attachment identified by these researchers -the preoccupied and the fearful, but not with the dismissing (Carnelley, Pietromonaco, & Jaffe, 1994; Reis & Grenyer, 2004). According to Bartholomew and Horowitz, attachment style is defined by the negativity or positivity of the working models of self and other: the secure style is characterised by positive representations of both self and other, the dismissing by a positive representation of the self and a negative representation of the other, the preoccupied by a positive representation of the other and a negative representation of the self, and the fearful by negative representations of both self and other. As a result, the studies connecting depression with preoccupied and fearful attachment styles seem to suggest a link between depression and a negative conscious representation of the self. The non-inclusion of the dismissing in the depression correlates seems to contradict a basic premise of attachment theory, according to which the unresponsiveness and emotional distancing reported to be employed by the caregivers of dismissing children (most of whom would be expected to become dismissing adults) and the interpersonal detachment observed in the relationships of these adults are expected to leave these individuals with a sense of helplessness and isolation, rendering them, therefore, vulnerable to depressive conditions (Fraley, Davis, & Shaver, 1998).

The answer perhaps may be found in the fact that the Bartholomew and Horowitz measures assess representations of self and other at a conscious, rather than at a non-conscious level. Although a negative representation of self may be registered in the non-conscious mind of dismissing individuals, contrary to both the preoccupied and the fearful, they manage to maintain a defensive positive conscious model. Moreover, contrary to the preoccupied and fearful styles that are regarded to indicate certain degrees of attachment disorganisation (Griffin & Bartholomew, 1994), dismissing attachment is understood as a more organised defensive strategy.

As the relationship between negative conscious attachment representation of the self and depressive symptomatology seems to have been established in the literature, we were interested in finding out whether such a relationship also applied between preoccupied and fearful attachment styles, on the one hand, and generalisation and/or other cognitive dysfunctions, on the other. The association of generalisation with an unstable rather than a stable negativity in the understanding of the self (Butler, Hokanson, & Flynn, 1994; Roberts and Monroe, 1994) seems to be perhaps an additional source to suggest a possible link between generalisation and various forms of attachment disorganisation. We felt that an attempt to link generalisation with the attachment representations of self and/or other may be informative on the nature of this dysfunctional cognitive process and its tie with depression.

In particular, we hypothesised that, independent of depressive symptomatology, higher levels of generalisation and/or other types of dysfunctional cognition would be presented by individuals who: (a) report relatively strong preoccupied or fearful attachment characteristics in their adult relationships; and (b) provide childhood recollections of low parental care and/or high parental overprotection.

METHOD

Participants and Design

A convenience sample of 172 mature undergraduates was used. Mature students were selected, so that most participants were at or above the usual age of depression onset, a condition that is not satisfied by most student samples (Coyne, Pepper, & Flynn, 1999). The students were recruited in the University of London (mean age= 29.8, *SD*= 8) and included 34 men and 138 women, 83 white, 59 black, 14 Asian, and 10 mixed/other individuals. Finally, 90 (52%) students were single, 59 (34%) were either married or cohabiting, 12 (7%) had long-term relationships but lived in separate households, and 8 (4.7) were divorced.

As limitations in resources did not allow the adoption of a more complex design, a ~~cross-sectional~~ study involving the administration of four self-report questionnaires to a student sample was conducted. Although the assessment of attachment representations may often require the employment of complex methodologies that are immune to defensive distortions frequently present in conscious accounts (George & West, 1999), self-report measures may provide useful cost-effective surface information that could perhaps direct research attention and further investigation to potential areas of importance (Shaver & Mikulincer, 2002).

Measures and instruments

Participants completed four self-report questionnaires.

Relationship Questionnaire (Bartholomew & Horowitz, 1991). This is a four-item questionnaire, measured on a 7-point Likert scale. Each of the four items indicates the presence of one of four attachment styles: secure, dismissing, preoccupied, and fearful. These styles are defined by positive and negative models of self and other. Empirical

studies have provided evidence for the convergent, discriminant, and predictive validity of the questionnaire and the theoretical model underlying it (Griffin & Bartholomew, 1994). In this sample, secure style was not related to any insecure one, dismissing was negatively related to preoccupied (r= -.204, p= .008), and preoccupied was also positively related to fearful (r= .293, p< .001).

Parental Bonding Instrument (Parker, Tupling, & Brown, 1979). A 25-item questionnaire, consisting of four subscales and assessing retrospectively different aspects of childhood experience of parenting: father care, mother care, father overprotection, and mother overprotection. Retrospective assessments of the PBI have been related both to siblings' and parents' reports (Parker, 1981, 1983) and the instrument has been used extensively with clinical and non-clinical samples. Moreover, it has demonstrated high test-retest reliability and internal consistency. In this study, the Cronbach α were: .82 for father care, .83 for mother care, .85 for father overprotection, .84 for mother overprotection, while another two easily derived scales were also used: total care (α= .83) and total overprotection (α= .85).

Attitudes Toward Self-Revised (Carver, La Voie, Kuhl, & Ganellen, 1988). This is a 10-item questionnaire measured on a 5-point scale and consisting of three subscales, each measuring a different type of dysfunctional cognitive style: high standards, self-criticism, and generalisation. The ATS has demonstrated satisfactory internal consistency and test-retest reliability as well as convergent and discriminant validity (Carver, Ganellen, & Behar-Mitrani, 1985). The Cronbach alphas in the present study were .72 for high standards, .76 for self criticism, .72 for generalisation, and .77 for the whole scale.

Beck Depression Inventory (Beck, Rial, & Rickels, 1974). This is a widely used 21-item questionnaire, measuring depressive symptoms. The BDI has demonstrated high test-retest reliability (r= .60 to r= .86), internal consistency (α= .85), and discriminant validity, while it has also exhibited moderately high convergent validity (Beck, Steer, Garbin, 1988). In this study, alpha was .83.

Procedure

The students were contacted during class breaks and asked to complete questionnaires on interpersonal attitudes. Information about the study was provided orally as well as in writing, while their right to withdraw at any point was emphasised. The time needed for questionnaire completion was about 20 minutes.

RESULTS

Demographic variables related to some of the scales. Age correlated negatively with attachment preoccupation (r= -.19, p= .014, df= 165) and mother care (r= .18, p= .018, df= 161). In addition, compared to men, women reported higher levels of depression (t= -2.08, p= .038, df= 167), paternal overprotection (t= -3.70, p< .001, df= 163), and total overprotection (t= -2.93, p= .004, df= 160), while men scored higher in high standards (t= 2.09, p= .037, df= 166). High standards also differed between British and non-British, with the former scoring lower than the latter (t= -2.29, p= .023, df= 147), and between Black African on the one hand and White and Mixed ethnicity on the other, with the former scoring higher than the latter [F(6,157)= 3.09, p= .007, Tukey-Kramer's p= .040 and .018 respectively]. Also, in relation to ethnic group, Black African scored higher than White in paternal overprotection [F(6,153)= 3.59, p= .002, Tuckey-

Kramer's $p < .001$] as well as in total overprotection [$F(6,150) = 3.95$, $p = .001$, Tuckey-Kramer's $p = .001$). Finally, no association of any scale with marital status was found.

The analysis of the data revealed associations between cognitive vulnerability and preoccupied and fearful attachment. As it was expected, depressive symptomatology was positively related to dysfunctional cognitive style, insecurity of attachment, and poor quality of parenting (Table 1). Dismissing attachment was negatively related to depression. Cases with missing data were excluded from the analyses. In particular, correlational analysis suggested that, in addition to depression, dysfunctional cognitive style was positively related both to insecurity of attachment in adult relationships and inadequate parental care, as the latter was recalled by the participants. Most of those correlations still stood, when the variance shared with depressive symptomatology was partialled out, indicating that these associations could not have been the result of depression. In addition, of all patterns of adult attachment, only the fearful was related to parenting quality, in particular, parental overprotection (Table 2). Moreover, despite the relatively low number of participants in most ethnic groups, correlations were examined separately in three main groupings: white Europeans, black of African decent, and all others. As the Asian and mixed ethnicity individuals were too few to be included in the statistical analysis separately, the third group was created rather artificially for strictly exploratory reasons.

According to the findings, while in the white sample generalisation was related to preoccupied ($r = .34$ $p = .002$, N= 80), fearful ($r = .23$, $p = .043$, N= 81), and secure attachment styles ($r = -.22$, p= .046, N= 81) as well as maternal ($r = -.44$, $p < .001$, N=

Table 1. Means and Standard Deviations of the measures used.

Measures	Mean	Standart Deviation	Minimum Score	Maximum Score
BDI	8.2	6.28	0	34
GEN	11.9	4.09	4	20
HST	11.94	2.32	3	15
SLFCR	11.54	2.74	3	15
ATSTL	35.46	6.78	13	50
PRE	3.67	1.78	1	7
FEAR	3.91	1.83	1	7
DIS	3.99	1.78	1	7
SEC	4.4	1.69	1	7
CRM	37.13	7.62	15	47
OVM	33.43	6.59	17	45
CRF	70.75	11.46	36	90
OVF	28.1	7.95	13	52
CRTL	26.15	7.68	13	49
OVTL	54.26	13.46	26	92

Key: BDI (Beck Depression Inventory); GEN (Generalisation/ATS); HST (High Standards/ATS); SLFCR (Self Criticism/ATS); ATSTL (Total/ATS); PRE (Preoccupied/RQ); FEAR (Fearful/RQ); DIS (Dismissing/RQ); SEC: Secure/RQ; CRM: Care Mother/PBI; OVM: Overprotection Mother/PBI; CRF: Care Father/PBI; OVF: Overprotection Father/PBI; CRTL: Care Total/PBI; OVTL: Overprotection Total/PBI.

81) and total parental care (r= -.39, p< .001, N= 79), in the Black sample it was related to dismissing attachment (r= .28, p= .034, N= 57) and maternal overprotection (r= .33, p= .014, N= 54). No other cognitive dysfunction was related to attachment variables in the white sample, while in the black self-criticism was related to fearful attachment (r= .28, p= .038, N= 57). Moreover, in the white sample the correlations of generalisation with preoccupied attachment (r= .24, p= .042, N= 73) and maternal (r= -.40, p< .001, N= 73) and total parental care (r= -.25, p= .029, N= 73) still stood when depression was partialled out, while another one between self-criticism and total parental care appeared (r= -.25, p= .030, N= 73). In the black sample, the correlations between generalisation and maternal overprotection (r= .30, p= .039, N= 44) and between self-criticism and fearful attachment (r= .29, p= .049, N= 44) were still significant when depression was partialled out. Correlations between preoccupied attachment and all types of problematic cognition were unusually high (rs ranging between .53 and .67, p<.01, N= 24), most likely due to the very low number of participants. Moreover, in the white sample depression was correlated with all attachment styles (positively with preoccupied and fearful, rs .27 and .23 respectively) and all parental bonding scales except maternal overprotection, while in the black sample depression was correlated only with preoccupied attachment and no parental bonding variables; in addition, the correlation between depression and generalisation was stronger in the white sample (r=.51, p< .001, N= 82 vs. r= .34, p= .011, N= 55).

Finally, simultaneous stepwise regressions in the whole sample revealed that

Table 2. Correlations among the questionnaire scales.

Measures		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	BDI														
2	GEN	.42**													
3	HST	-.09	.07												
4	SLFCR	.15	.49**	.33**											
5	ATSTL	.27**	.82**	.53**	.81**										
6	PRE	.28**	.32* (.22**)	.18* (.19*)	.22** (.19*)	.33** (.27**)									
7	FEAR	.15*	.19** (.13)	.09	.18* (.17*)	.22** (.17*)	.29**								
8	DIS	-.17*	-.05	.14	.07	.04	-.20**	.12							
9	SEC	-.16*	-.18* (-.11)	-.06	-.11	-.18* (-.13)	.02	-.1	.01						
10	CRM	-.25**	-.25** (-.2**)	.12	-.04	-.13	-.03	-.13	.13	.12					
11	OVM	.16*	.09	.04	-.03	.04	.06	.22*	.01	-.04	-.41**				
12	CRF	-.21**	-.17* (-.08)	.09	-.00	-.07	-.01	-.11	.02	.09	.34**	-.26**			
13	OVF	.25**	.12	.10	-.00	.11	.14	.18*	.01	-.07	-.15*	.47**	-.17*		
14	CRTL	-.29**	-.28** (-.18*)	.11	-.04	-.15* (-.07)	-.03	-.13	.07	.14	.84**	-.43**	.79**	-.21**	
15	OVTL	.23**	.12	.08	-.03	.08	.13	.25**	.02	-.05	-.34**	.86**	-.25**	.85**	-.37**

* p≤.05, ** p≤.01. (In brackets: Partial correlations controlling for depressive symptomatology).

Table 3. The predictors of depressive symptoms and cognitive vulnerability, after controlling for age, gender, and ethnic group

Dependent Variable	Independent Variables	*Beta*	*Adj R Sq*	*F*	*p*	*df*
BDI	1. GEN	.28	.17	11.42	.000	141
	2. OVF	.17	.21			
	3. DIS	-.14	.23			
	4. PRE	.17	.25			
	5. CRTL	-.15	.27			
GEN	1. BDI	.30	.17	16.22	.000	141
	2. CRM	-.22	.21			
	3. PRE	.20	.24			
SLFCR	1. PRE	.23	.05	6.29	.002	142
	2. SEC	-.16	.07			
HST*	1. PRE	.20	.02	4.7	.010	148
	2. DIS	.18	.04			
ATSTL	1. PRE	.27	.10	9.56	.000	141
	2. SEC	-.16	.14			
	3. BDI	.16	.15			

* In this equation age, gender, and ethnic group were not included, as when they were, gender and ethnic group emerged as the only predictors.

paternal overprotection, dismissing attachment, preoccupied attachment, and total parental care, all were predictively and independently associated with depressive symptomatology, generalisation being the strongest predictor (Table 3). On the other hand, all types of cognitive vulnerability were predictively and independently associated with preoccupied attachment (in the case of high standards, only when gender and ethnic group were not included in the equation), while self-criticism was also associated with the secure style.

Discussion

The present findings confirmed previously reported associations between depressive symptomatology, on the one hand, and insecurity of adult attachment (Bowlby, 1980; Main, 1995), poor quality of parenting (Bretherton, 1995; Gerlsma, Emmelkamp, & Willem, 1990), and dysfunctional cognitive style (Hammen, 2001), on the other. Moreover, they seemed to support our hypotheses that depressiogenic and dysfunctional cognitive styles relate to preoccupied and fearful attachment characteristics and bonding with parents, even when depressive symptomatology is partialled out. However, as this was a non-clinical sample, the extension of the present conclusions to clinical depression should be approached carefully. Also, the assumption that depressive symptomatology was fully assessed in this culturally diverse sample should be made with similar caution, as a number of socio-cultural factors maybe implicated in symptom reporting (Kirmayer, 2001).

Although the ~~cross-sectional~~ nature of our design did not allow much confidence in establishing causal relationships, these findings may suggest that an attachment organisation including a consciously held negative image of the self (Bartholomew &

Horowitz, 1991) may be contributing towards an enhanced vulnerability for cognitive dysfunction and depression. Such speculation appears consistent with a number of studies relating cognitive vulnerability and depressive symptomatology with problems in self-esteem (Andrews, 1998; Beck, 1967).

Preoccupied attachment was the attachment style associated more extensively with both cognitive dysfunction and depression. Most notably, preoccupation attained the strongest correlation with generalisation, the cognition type most consistently associated with depression (Carver, 1998). Although somewhat less extensive, the associations of fearful attachment with cognitive dysfunction were also noteworthy, including correlations with generalisation and self-criticism. Perhaps the key element in the link among preoccupied and fearful attachment, generalisation, and depression is an instability in the sense of self. On the one hand, a number of studies suggest that both generalisation and depression are related to labile, as opposed to a relatively stable negative self-esteem (Butler *et al.*, 1994; Roberts & Monroe, 1994). On the other, attachment research reports that, despite their differences, both preoccupied and fearful individuals are characterised by some degree of disorganisation: instability in mood and behaviour and ambivalence in interpersonal relationships (Griffin & Bartholomew, 1994).

According to attachment research, such disorganisation can be traced back to childhood. Both preoccupied and fearful individuals are reported to have experienced parenting characterised by a certain degree of confusion, which prevents the establishment of a stable sense of self. The former seem likely to have received a markedly inconsistent care, while the latter, parental responses ranging from abuse or extreme coldness to complete unavailability (Bartholomew, 1993; Shaver & Mikulincer, 2002). Such an incoherent parenting is contrasted to the sub-optimal but consistent under-responsiveness of the parents of dismissing individuals (Griffin & Bartholomew, 1994; Main *et al.*, 1985), who, due to a more stable and positive self concept, seem to be immune to both overgeneralisation and depression, as this and other studies (Murphy & Bates, 1997) have indicated.

We feel that a motivational hypothesis linking preoccupation and fearfulness to generalisation and, ultimately to depression, may be relevant here. It may be the case that overgeneralisation is employed relatively intensely by the preoccupied and fearful individuals as a final desperate strategy to establish some sense of certainty in the understanding of the world and the self. The role of cognitive structures of attachment in predicting relevant environmental events as well as the efficiency of the self in responding to such events are vital to human survival (Bowlby, 1982; Collins & Read, 1994), while the ability to generalise is central to that predictive capacity (Dollard & Miller, 1950). It may be the case, therefore, that having some, even negative, certainty rather than no certainty at all is experienced as “preferable” by these insecurely attached individuals.

Viewed within this context, the observation made by many authors (Carver & Ganellen, 1983) that generalisation increases after a stressful event may not seem surprising. As stressful events activate the attachment system (Bowlby, 1982) and the establishment of a sense of security becomes an immediate priority, the organisation and coherence of the self are strenuously tested. Having few other resources to draw

upon, the preoccupied and the fearful individuals seem then to employ a strategy of "reliable negativity", potentially entering however a spiral route towards depression.

A similar motivational understanding of generalisation has also been suggested by Epstein (1992) within the context of cognitive-experiential self theory. According to this researcher, certain individuals with unfavourable childhood experiences automatically engage in negative overgeneralisations in order to maintain a relatively stable self-esteem, even if that has to be achieved at a negative level. According to Epstein, these individuals engage in such a defensive manoeuvre, as they continuously expect unpredictable, often extreme, fluctuations in negative affect. Our findings seem to relate to such an understanding, but as they locate the phenomenon within attachment research, they may provide additional insights about the nature of the interpersonal and developmental processes implicated.

If the motivational hypothesis is correct, however, the finding that generalisation and other cognitive dysfunctions were more strongly correlated with preoccupied rather than fearful attachment needs to be accounted for. If the fearful style indicates higher levels of attachment disorganisation (Simpson & Rholes, 2002) and if generalisation is a defence against the experience of such disorganisation, one would expect the above correlations to be in a reverse order of strength. Although the non-representativeness and the size of the present sample could lie behind such an apparent inconsistency, an alternative explanation is also possible. As the fearful style suggests a more unstable and less adaptive type of avoidance, as opposed to the dismissing (Bartholomew & Horowitz, 1991), it may be the case that fearful individuals are better able to hold onto their avoidant defences when they are not experiencing a particular stressor (as it may be the case with our non-clinical sample), but not when such a stressor appears, resulting in greater overt pathology. The preoccupied, on the other hand, may exhibit a comparatively higher degree of apparent disorganisation in the absence of a concrete stressor, as their attachment system remains constantly hyperactivated and as they continuously approach and get frustrated by their attachment partners. Nonetheless, these individuals do maintain some contact with an attachment figure and manage to obtain some degree of support, however fragmented and tentative, perhaps ending up feeling less lonely and vulnerable than the fearful when a substantial stressor is present. This hypothesis appears consistent with studies suggesting that depression is more strongly associated with fearful rather than preoccupied attachment in clinical samples (Reis & Grenyer, 2004). As the ~~cross-sectional~~ nature of the present study cannot test this hypothesis, prospective designs should be employed in the future.

In addition to generalisation, individuals with relatively strong preoccupied or fearful characteristics appeared to employ relatively high levels of self-criticism, while the former tended to hold very high standards, as well. Although self-criticism in the ATS has not been related to depression either in this or in previous studies (Carver, 1998), it has been related to depression as well as to preoccupied and fearful attachment styles in studies using different measures (Murphy & Bates, 1997). This may suggest that individuals with relatively strong preoccupied or fearful tendencies present an additional vulnerability to dysfunctional cognition and potentially to depression. Conceptually, self-criticism seems to reflect the level of overt blame put on the self

and, therefore, constitutes an important aspect of the latter's perceived negativity upon which generalisation depends.

Moreover, although not directly associated with depression, high standards were related to preoccupied attachment contributing perhaps to the preoccupied individuals' cognitive vulnerability. Rholes and Simpson (2004) suggest an interpersonal model in which preoccupied individuals are led to a state of "relationship deprivation" and then to depression, as their standards of expected support are too high. As their partners cannot meet these standards, preoccupied individuals may become increasingly isolated, desperate, and eventually depressed. The present findings seem to relate to such a mechanism, suggesting perhaps that the adoption of too high expectations by the preoccupied may work together with the other types of dysfunctional cognition in building up vulnerability towards depression or other types of pathology. Setting high expectations for the self may be an expression of a hyperactivated attachment system to deal with inconsistency of response. In behavioural terms, due to their inconsistent parenting, preoccupied individuals learn to operate under a variable-interval schedule of reinforcement, which results in continuous and indiscriminate response (Crittenden, 1995). It may be the case that by setting unrealistic expectations for the self, preoccupied individuals manage to cling on to the idea that the world can be predicted and felt security can be obtained, however, only if the maximum effort is employed. Again, the ~~cross-sectional~~ nature of our design makes these hypotheses only tentative.

In addition, as generalisation was associated with low recollected parental care, more support for the motivational hypothesis linking it to preoccupied and fearful attachment may have been provided. Although maternal care was more strongly related to generalisation, paternal overprotection was the most powerful attachment predictor of depressive symptomatology, highlighting the role of the father in the development of cognitive dysfunction and depression. Such an observation seemed consistent with Carranza & Kilman's (2000) finding that attachment insecurity related more strongly to paternal rather than maternal characteristics. Since prospective and retrospective studies have linked depression to various features of fathering, such as father-adolescent conflict (Cole & McPherson, 1993), father-daughter alliance (Jacobvitz & Bush, 1996), and paternal affectionless control (Gerlsma *et al.*, 1990), further investigation of the role of father-child attachment in the development of cognitive vulnerability for depression seems to be justified in the future.

Finally, the link of generalisation with maternal overprotection in the black African sample as opposed to that with maternal care and attachment preoccupation in the white European, may indicate some culture specific routes to depressive vulnerability. Kane and Erdman (1998) suggest that the families of Black college students seem to be more encouraging of independence than those of the white, perhaps to maximise adaptiveness in difficult and potentially discriminating social environments. It may be the case that when an anxious black mother overprotects her child, often in unsafe urban neighbourhoods, such overprotection may be more likely to generate a sense of incapacity in the self of the developing child than it would do in the context of a white family.

This study had a number of important limitations. Firstly, the ~~cross-sectional~~

design did not allow much confidence in identifying causal relationships among the variables. Although most associations between attachment and cognitive dysfunction still stood when depressive symptoms were partialled out, a prospective design would still be needed to establish that preoccupied and fearful attachment representations predispose individuals to generalisation, self-criticism, and high standards. An additional limitation regarded the validity of simple self-report questionnaires in assessing working models of attachment, a complex and multifaceted construct (George & West, 1999). Although the *Relationship Questionnaire* seems to tap certain conscious aspects of attachment representations, cognitive dysfunction should also be investigated in relation to methodologies addressing unconscious processes (George, Caplan, & Main, 1985). Finally, the present research questions should be further investigated in clinical samples to see how correlations between cognitive dysfunction and attachment style may differ and how they may be affected by psycho-social interventions.

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