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Running head: Online Dating Romance Scam

The online dating romance scam: causes and consequences of victimhood

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Abstract

The online dating romance scam is a relatively new and under-reported international crime targeting users of online dating sites. It has serious financial and emotional consequences, affecting hundreds of thousands of people. However, little if anything is known about psychological characteristics that may put people at risk of romance scam victimization, or influence how they react to it. Online daters ($N = 853$) and participants recruited from a victim support site ($N = 397$) completed a battery of online questionnaires. High scores on the romantic belief of Idealization were associated with likelihood of being a romance scam victim. Victims experienced significant emotional distress as well as financial losses. Even respondents who reported being fooled by scammers, but who had not lost any money, reported significant distress. Level of emotional distress was associated with high Neuroticism, and also with high Loneliness and low Openness to Experience among victims not losing money. The findings have implications for the feasibility of crime-prevention measures based on victim characteristics, and for treatment of victims by law enforcement and other stakeholders.

Keywords

Internet; fraud; online dating romance scam; romantic beliefs; idealization

This paper reports empirical research examining the psychological characteristics of victims of a specific type of fraud known as the 'online dating romance scam'. Fraud is a serious legal and economic problem. In the United Kingdom alone, the National Fraud Authority (2012) estimated that fraud had cost the UK economy £73 billion over the previous year. It has been argued that opportunities for criminals to defraud people grew significantly in the second half of the twentieth century (Shover, Coffey, & Sanders, 2004). Electronic communications have opened up the floodgates for a variety of different types of scam to be conducted via the Internet (Salu, 2004). Perhaps the best known of these is the familiar '419' or 'advance fee fraud' scam. In a typical advance fee fraud, criminals lure potential victims with a story about needing help to place a large sum of money in an overseas bank account (Button, Lewis, & Tapley, 2009). The source of the money is variously described: Examples include inheritance or funds they have access to through some claimed official role. The victim is offered a share of the spoils in return for helping with this transfer. The help required includes the victim providing some money in advance to make the larger transaction possible (e.g. to bribe officials or pay some fee). Of course, once the scammer has extracted this advance payment from their victim, the promised money never materializes. A variant on this type of fraud is the online dating romance scam, which is typically conducted via online dating sites by organized international groups.

The online dating romance scam started becoming known in Britain around 2007 (BBC NEWS, 2007), and also affects numerous other countries around the globe. Between April 2010 and April 2011, Action Fraud (the UK national fraud reporting center) identified 592 victims of this crime in the UK. Of these victims 203 individuals

lost over £5,000. Action Fraud (2011) considered the crime was under-reported and that there were actually many more victims. Whitty and Buchanan (2012a) suggested on the basis of a nationally representative survey that almost 230,000 people may have fallen victim to romance fraudsters in Great Britain alone in the four or so years from the emergence of the scam until mid-2011. SOCA (the UK's Serious Organised Crime Agency) has identified romance scam victims with financial losses ranging between £50 and £800,000 per person (SOCA officers, personal communication, 2011).

The Online Dating Romance Scam

In the online dating romance scam, criminals contact their victims through online dating sites or social networking sites, creating fake profiles with stolen photographs of attractive people (Aransiola, 2011; Rege, 2009; Whitty & Buchanan, 2012a). While they simulate developing relationships with their victims, the end goal of the scammers is to defraud them of large sums.

The fraudsters typically claim to be in love with the victim at a very early stage. They move the 'relationship' away from the dating site and instead communicate by Instant Messenger and email. Over periods of weeks, months or even years, communication between scammer and victim is very frequent and intense. As the 'relationship' develops scammers may ask for small gifts (e.g., mobile phone, new webcam) as a testing-the-water strategy. If the victim accedes to these requests, larger amounts of money will then be requested. Third parties are often brought into the narrative, to make the scam appear more plausible and to demand money in new ways. For example, a 'doctor' might contact the victim, saying their beloved is seriously ill or

has been in an accident, and asking for payment of hospital bills (Whitty & Buchanan, 2012b; Rege, 2009). In some cases, victims have even been persuaded to visit an African country (where many of the scams originate) and subsequently been kidnapped (SOCA, 2010; Whitty & Buchanan, 2012c).

The fraud continues until the victim realizes they have been scammed (e.g., when informed by the police). However, given the strong relationship the victim feels they have developed with the persona adopted by the scammer, the victim often finds it very difficult to accept the truth and instead believes there is still some reality to the relationship. This disbelief can lead to a continuation or a second wave of the scam, for example where the criminal admits that they had scammed the victim but then had really fallen in love with them; or an alleged third party is brought in claiming they can get the victim's money back (Whitty & Buchanan, 2012b). Victims of the online romance scam can thus experience both financial loss and psychological suffering from the loss of an important romantic relationship (Whitty & Buchanan, 2012a)

Psychological Characteristics of Victims

Learning about the typical characteristics of victims of the online romance scam could assist in crime prevention. Already, a number of online dating sites use personality profiles to characterize and match their users. This raises the possibility of using those personality profiles to detect individuals who may be at risk of falling victim. Potentially, the sites where the scams are initiated could identify people at risk of becoming victims and alert them to the persuasive techniques the scammers employ.

To date, little is known about any typical characteristics of fraud victims. Research has mostly focused on 'get rich quick scams' (e.g., the advance-fee fraud, lottery scams, fake prize scams). Furnell (2005), for example, points out that greedy and naive individuals are more likely to be conned by such scams. Lee and Soberon-Ferrer (1997) measured people's vulnerability to consumer fraud in general using a vulnerability index based on a number of factors (e.g. thinking few businesses try to mislead customers, not knowing who to turn to with consumer problems). They found that people with higher vulnerability scores tended to be older, poorer, less educated and single. However, these findings differ from those of Titus and Gover (2001), who reviewed data suggesting that younger and better-educated people are more at risk. That work was based on data from a survey of people reporting actual victimization by any of 21 categories of personal fraud, rather than general vulnerability or experience of specific scams. The differences in the conclusions of these authors may reflect differences in the type of fraud experience / vulnerability being considered. A problem associated with such studies is limited granularity in the analysis, with vulnerability to different types of scam being considered together rather than individually. Button, Lewis and Tapley (2009, in press) make the points that victims of fraud have received little attention from scholars of victimology, and also that because there are a wide variety of types of fraud there will be a wide range of victims (Button et al., in press). Thus, it makes sense to examine individual fraud types in detail.

It is possible that the online romance scam might differ from other frauds, given that the prize being dangled before the victim is initially a romantic relationship, not money (though this may enter the equation later in proceedings). At present there is little

empirical work available to draw upon to develop hypotheses about the types of people most likely to be conned by a romance scam. One incentive for going along with the fraud is obviously the quest for a loving relationship. However, that is shared with most other users of the online dating sites – and most other users avoid being defrauded. The question thus remains as to why some individuals are willing to give up their personal savings for someone they have met online.

Loneliness. Loneliness is often advanced as a reason for individuals to use online dating sites. Indeed, the term 'lonely hearts' is commonly used to describe newspaper or online personal adverts from people looking for love. McKenna, Green and Gleason (2002) found that loneliness, mediated by a tendency to view one's 'real self' as being more easily expressed online, was associated with the tendency to form strong attachments and relationships via the internet. Lawson and Leck (2006) argued that loneliness was among the factors motivating people to date online, and their participants reported online relationships reducing their loneliness. Thus one might expect more lonely individuals to be more strongly motivated to form online relationships, and also more likely to persist with and nurture the 'relationships' they have been tricked into. Therefore, the first hypothesis is that victims of the romance scam are likely to score high on measures of loneliness compared with others using online dating sites (H1).

Personality. While there is a dearth of research on the personality characteristics of fraud victims, it is likely that some personality traits may be relevant to the question of why some people trust the scammers and others do not. Evans and Revelle (2008)

demonstrated links between dispositional interpersonal trust and dimensions drawn from the Big Five/Five Factor model (Costa & McCrae, 1992; Goldberg, 1990). Specifically, dispositional trust was associated positively with Agreeableness (more agreeable people were more trusting) and Extraversion (more extraverted people were more trusting), and negatively with Neuroticism (more neurotic, less emotionally stable people were less trusting). Furthermore, Evans and Revelle (2008) found that dispositional interpersonal trust predicted participant behavior in an economic simulation called the Investment Game. This simulation involves participants exchanging funds with an unseen partner (reminiscent of the way scam victims may send money to the fraudsters). Participants with higher Agreeableness scores 'sent' more money to the unseen interaction partner, adding more weight to the notion that scam victims may be higher on Agreeableness. Accordingly, it is predicted that scam victims will be more extraverted (H2), more agreeable (H3), and less neurotic (H4) than those online daters who do not fall victim.

Romantic beliefs. Another theory that might have some utility when examining who might be drawn into a romance scam is that of 'romantic beliefs'. Romance scams are unique given that the end goal or 'hook' for the victim is a romantic relationship rather than their own financial reward. Therefore, views on love might predict being drawn into such a scam.

Sprecher and Metts (1989), who devised the Romantic Beliefs Scale, contend that romanticism or love as an ideology is "a relatively coherent individual orientation toward love" that "may function as a cognitive schema for organizing and evaluating one's own behaviour and the behaviour of a potential or actual romantic partner" (p.388). Their

Romantic Beliefs scale consists of four factors: Love Finds a Way (i.e., love can overcome barriers to all obstacles), One and Only, Idealization and Love at First Sight. They found that high scorers on the Romantic Beliefs Scale tend to love and like their partner more, experience more passionate love and reported a lower number of dates prior to falling in love.

Those who score high on the Romantic Beliefs Scale typically believe in the notion of romantic destiny, the idea that two people are meant to be together. It is therefore plausible to hypothesize that individuals who have strong romantic beliefs might perceive someone who approaches them online praising their profile and declaring they are 'the one' to be more prone to accepting this as a real proposition. The fifth hypothesis is that victims of the romance scam score higher on romantic beliefs compared with others using online dating sites (H5).

Sensation seeking. Sensation seekers look for varied, new, complex and intense sensations and experiences and are willing to take physical, social, legal and financial risks for the sake of such experiences (Zuckerman, 1994). High sensation seekers tend to gauge risk as lower than low sensation seekers and tend to feel less anxious in risky situations (Zuckerman, 1994). Hence, high sensation seekers tend to engage in risky situations when given the opportunity to do so. Henderson et al (2005) presented participants with vignettes like personal ads, which described the person in terms of attractiveness, risk, likelihood of dating, likelihood of engaging in risky sexual behavior and likelihood of becoming infected with a sexual disease. They found that high

sensation seekers evaluated potential partners as more attractive and less risky, were more likely to go on a date and have unprotected sex and less likely to believe they would become infected with a sexual disease compared to low sensation seekers. Researchers have also found that high sensation seekers are more likely to encourage self-disclosure in others (Franken, Gibson, & Mohan, 1990; Henderson, Hennessy, Barrett, Martin, & Fishbein, 2006). Given this desire for high self-disclosure, high sensation seekers tend to form romantic relationships more quickly than low sensation seekers. Taking into account what is known about high sensation seekers the sixth hypothesis is that those high in Sensation Seeking might be more prone to being conned by the romance scam compared with online daters who are not (H6).

Summary

The two studies that follow set out to test hypotheses about the characteristics of online romance scam victims derived from literature on fraud and romantic relationships. The goal is to identify variables that may be risk factors for victimization. The scope is restricted to romance scam victims drawn from online dating sites (excluding social networking sites or postal mail scams). This is because the characteristics of individuals from each medium are potentially different. Study 1 examines a sample drawn from a population of online daters, while Study 2 uses a sample drawn from a 'victim support' website with a high proportion of scam victims.

Study 1

Method

  Participants. Participants were recruited from the membership database of a large

European online matchmaking company that caters primarily for a mature demographic

and has both heterosexual and gay-oriented versions of their platform. Recruitment

emails were sent to over 250,000 individuals who had been active on the company's UK

sites for over 38 days. The questionnaire was described as being around online dating in

general (it included other sections about experiences unrelated to scams). The response

rate was low. While the sample is heavily self-selected, and likely to incorporate multiple

biases, there is no reason to believe that it is biased with respect to fraud victimhood.

  In the period from 21st March to 18th July 2011, 1096 individuals accessed the

survey. Of these, 853 completed it fully and indicated that their data could be used for

analysis at the end of the questionnaire. Multiple responses were controlled for using

unique ID numbers issued at the start of the session. These enabled 'accidental double

click' type multiple responses to be identified. None were found. Fourteen records were

associated with IP (Internet Protocol) addresses that duplicated others in the datafile.

Examination of these suggested this was due to use of proxy servers by Internet Service

Providers and other organizations (AOL and the European Commission were two

identified). Furthermore, the majority of these respondents gave email addresses (for the

prize draw) that identified them as distinct individuals. No email address was associated

with more than one submission. There is therefore a high level of confidence that all

responses are unique. Furthermore, examining combinations of demographic data (age and education) did not give grounds for suspicion in any case. All 853 consenting participants were thus retained.

The sample comprised 369 men and 479 women (5 did not report their gender). Ages ranged from 19 to 81, with a mean of 46.4 years (SD = 11.9). Most (63.6%) were employed full-time, and the sample was well-educated, with 64.6% being qualified to undergraduate degree level or beyond. The great majority (87.8%) reported their country of residence as the UK, with small numbers being spread among 45 other countries.

Fourteen individuals who did not indicate they had used an online dating site (these might be people forwarded the survey link by a site member) were excluded from analyses. This was because this investigation focuses on those targeted via online dating sites, not other means (such as postal mail or social networking sites) that might be associated with different risk factors.

Materials. Data were collected using a questionnaire hosted on the Qualtrics online survey platform. The questionnaire comprised a number of scales, represented online using individual or matrix-style layouts with responses entered via radio buttons, drop-down menus or free text entry as appropriate. Progression through the questionnaire was controlled by disabling browser 'back' buttons. Respondents were able to leave the questionnaire then return to the same point later. Given occasional concerns about the validity of online psychological tests (e.g. Buchanan, 2007), all the scales chosen had previously been used successfully in online research projects that produced findings consistent with the scales being valid and reliable measures.

Personality traits were measured using a five-factor personality inventory validated for use online by Buchanan, Johnson and Goldberg (2005). This 41-item inventory gives measures of Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism. Cronbach's alphas for the five dimensions range from .74 to .88 (Buchanan et al, 2005).

Sensation Seeking was measured using the Brief Sensation Seeking Scale (BSSS; Hoyle, Stephenson, Palmgreen, Lorch & Donohew, 2002). This is a widely used 8-item scale that addresses the same construct as Zuckerman's 'gold standard' measure of sensation seeking, the SSS-V (Zuckerman, Eysenck & Eysenck, 1978). Its brevity makes it more suitable for use online. It has been used successfully in internet-mediated research (e.g., Peter & Valkenburg, 2011, albeit with a reduced item set, with alphas of .87 and .86 in two samples). While the BSSS can be scored in terms of four subscales, for current purposes only the overall sensation seeking score was calculated.

Romantic Beliefs were measured using the scale of that name (Sprecher & Metts, 1989). This comprises 15 items measuring four distinct sets of beliefs (Love Finds a Way, One and Only, Idealization and Love at First Sight). It has previously been used in online research by the present authors (Whitty & Buchanan, 2009), and found to have acceptable reliability with an alpha of .86 in an online survey of 8088 members of an online dating site.

Loneliness was measured using the UCLA Loneliness Scale (Russell, 1996), a 20-item scale providing a global measure of loneliness. The measure has been administered online in full (Baker & Oswald, 2010) and abbreviated (Hollenbaugh, 2011) versions and

shown to be reliable when used in that format (Baker & Oswald, 2010, report an alpha of .91).

Experience of online dating and romance scams was assessed using a series of questions about participants' use (if any) of online dating sites. Those who had used dating sites were given a brief definition of the romance scam and asked whether they had ever been taken in by one (response options were "No", "Yes, but I never lost any money", "Yes, and I lost money" and "Other people have said I was being scammed but I disagree"). Those who had been taken in by scammers were asked a series of questions about their experience. Analyses in the current paper are restricted to two of these: what their level of financial loss, if any, had been; and the extent to which they had been emotionally affected by the experience of being scammed (a seven-point scale anchored at "Not at all" and "Very distressed over a long period").

Respondents also completed the Internet Self-Efficacy Scale (Eastin & LaRose, 2000). Data from that measure are not included in this paper due to concerns about its distributional properties in the current sample.

Procedure. Participants accessed the questionnaire via a link in the recruitment emails they received from the dating company. On following the link, they were presented with information about the study and asked to indicate informed consent before proceeding. On the subsequent pages, they were asked to complete a number of demographic items; the Internet Self-Efficacy Scale; and whether they had ever used an online dating site. Those who indicated they had used a dating site then saw a series of questions about their use of such sites, then a set of questions about the online dating

romance scam. This comprised a brief definition, then a set of questions about their experience of scams. Those who indicated they had been fooled by a scammer were then asked about this in more detail, including questions on financial and emotional impact. Only the latter two items are used in the present analysis.

All respondents then saw, on separate pages, the UCLA Loneliness scale; the Five-Factor personality inventory; the Romantic Beliefs scale; the Brief Sensation Seeking Scale; and were asked whether they would be willing to be contacted for a follow-up interview. They were given the opportunity to leave contact details to be entered in a draw for a £250 Amazon voucher (the opportunity to enter the draw was explained in the initial participant information), then asked once more if their data could be used in analyses. Finally, they saw debriefing information, along with contact details for the research team and agencies they could contact if they believed they had been victims of the crime. They were also given the opportunity to sign up for a mailing list that would be used to send out a summary of findings.

Results and Discussion

In Table 1, the sample is broken down by gender, sexuality, and whether they had been victims of romance scams. The sample was segmented by sexuality. This was because participants were recruited from the members of both gay and heterosexual versions of the online dating site. When this study was conducted, little was known about whether gay men and women are targeted by romance scams in the same way as heterosexuals. Table 1 clearly shows that they can be.

[Table 1]

Table 1 indicates that of the different categories of 'victim', the great majority in this sample who said they had been fooled by a scammer had not actually lost any money (respondents were divided into those who had not been taken in by a scammer; those who had been taken in but not lost money; those who had been told by others that they were scam victims; and those who had lost money). Given the small numbers in the latter two categories, for purposes of the analysis individuals were categorized as either having been fooled by scammers, or not fooled. While one might argue that it is only those losing money who are true 'victims', there is still potential for emotional distress to be caused even if no money changes hands. Of the 839 individuals remaining in the sample, 137 had been fooled by scammers and 697 had not (five did not answer the question). Of those who had lost money, 38% had lost less than £100 ($160) and 38% had lost between £1,001 and £10,000 ($1601-$16,000).

The hypotheses advanced earlier suggested that victims would be likely to score higher on Loneliness (H1), Extraversion (H2), Agreeableness (H3), Romantic Beliefs (H5) and Sensation Seeking (H6) but lower on Neuroticism (H4). Descriptive statistics for these variables are shown in Table 2.

[Table 2]

All six hypotheses were tested simultaneously using standard forced entry binary logistic regression, with victimhood (fooled or not fooled) as the outcome variable. The

overall model was significant in predicting victimhood (χ^2(6, N = 703) = 20.13, p = .003), though the amount of variance explained was low (Cox & Snell R^2 = .028). As Table 3 shows, the only significant predictor was Romantic Beliefs, with higher levels being associated with victimhood (B = .025, *Wald* = 11.04, p = .001).

[Table 3]

The Romantic Beliefs scale has four subscales measuring different aspects of the construct. Descriptive statistics for these are shown in Table 2. While indices of internal consistency were surprisingly good for such short scales in three cases, the value of alpha for Love at First Sight was low at .555, indicating that this scale should not be used in analyses. Accordingly, a further analysis to identify which component(s) of Romantic Beliefs were important was conducted by repeating the logistic regression with only Love Finds a Way, One and Only, and Idealization as predictors.

The new overall model (Table 4) was slightly better at predicting victimhood (χ^2(3, N = 812) = 24.79, p<.0005), though the amount of variance explained remained low (Cox & Snell R^2 = .030). Of the three included elements of Romantic Beliefs, only Idealization was significantly associated with victimhood (B = .10, *Wald* = 10.34, p = .001).

[Table 4]

The findings of Study 1 were consistent with only one hypothesis, that people with higher levels of Romantic Beliefs would be more likely to be victims (H5). Further analyses indicated that the only variable significantly predicting victimhood was the Idealization component of Romantic Beliefs. In other words, people with a higher tendency towards Idealization of romantic partners were more at risk of being fooled.

One potential objection to the current conclusions revolves around the status of people fooled by scammers as 'victims'. Clearly, being deceived is the first step on the road to being defrauded, and may in itself lead to emotional harm. However, only a small minority of these respondents had actually lost money and would thus be crime victims in the legal sense. Does a high level of Idealization also make one more likely to enter the latter, more serious stages of the scam where money is lost? To test this, a sample incorporating many more 'victims' who had gone on to be financially defrauded is required.

Study 2

Method

Participants. In Study 2, participants were recruited from a volunteer-run website set up to support romance scam victims. This website includes information on the scams and scammers, and a discussion forum used by members to exchange information and offer support. The majority of site users are victims, but others who have an interest but have not themselves been defrauded also visit it. With the moderators' permission, a recruitment message was posted on the forum.

In the period from 17th May to 8th September 2011, 603 individuals accessed the survey. Of these, 405 completed it fully and indicated that their data could be used for analysis.

Multiple responses were screened out as follows. Unique ID numbers were issued at the start of the session that enabled 'accidental double click' type multiple responses to be identified. None were found. One record was associated with an IP addresses that duplicated another in the datafile. These two data submissions, timed two weeks apart, came from the same IP address, had similar demographic data, and gave the same email address for entry to the prize draw. This therefore appeared to be a genuine multiple submission. Both the first and subsequent submissions were deleted. In 3 cases, email addresses were given for the prize draw that duplicated others in the database. In each case the questionnaire had been completed on the same day as the response it duplicated, and there were only minor differences between the data supplied. Again, both submissions were deleted in each case.

This left 397 apparently unique participants. Examining combinations of demographic data (age and education) did not give grounds for suspicion in any case. The sample comprised 105 men and 291 women (one person did not report their gender). Ages ranged from 21 to 84, with a mean of 51.8 years ($SD = 9.9$). Most (62.8%) were employed full-time. Almost half, 47.3%, were qualified to undergraduate degree level or beyond. The great majority (72.3%) reported living in the USA, 10.4% in Canada, and smaller numbers being spread among 21 other countries. Unlike Study 1, only 4.8% lived in the UK. As in Study 1, and for the same reason, 16 individuals who did not indicate they had used an online dating site were excluded from further analysis.

Materials and Procedure. The materials used and procedure followed for Study 2 exactly duplicated those of Study 1, other than the means by which participants were recruited to the study.

Results and Discussion

In Table 5, the 376 individuals with complete data on the relevant items are broken down by gender, sexuality, and whether they had been victims of romance scams. The sample was almost exclusively heterosexual. Given the very small numbers in other categories, only respondents identifying themselves as heterosexual were included in further analyses.

Of the remaining 367, 325 had been fooled by scammers and 42 had not. Of 211 who had lost money, losses ranged from under £100 ($160) to over £100,000 ($160,000). The modal category (76 cases) was £1,001 - £10,000 ($1,601 - $16,000).

Descriptive statistics for three different categories of victims (non-victims, people fooled by scammers who had not lost money, and people who had lost money) are shown

in Table 6. Again, internal consistency for Love at First Sight is too low for use in analyses. Alpha for Agreeableness is also lower than ideal, but approaches the conventional .7 benchmark.

Victims and non-victims. The same hypotheses as outlined for Study 1 were tested in Study 2. Specifically it was predicted that victims would be likely to score higher on Loneliness (H1), Extraversion (H2), Agreeableness (H3), Romantic Beliefs (H5) and Sensation Seeking (H6) but lower on Neuroticism (H4). Thus, logistic regression was again used to compare non-victims with those who had been fooled by scammers (whether or not they had lost money). All variables about which there were hypotheses (Loneliness, Extraversion, Agreeableness, Romantic Beliefs, Sensation Seeking and Neuroticism) were used as predictors, comparing victims and non-victims. The overall model was significant in predicting victimhood ($\chi^2(6, N = 303) = 21.73$, $p = .001$) with a Cox and Snell R^2 of .07 and is shown in Table 7.

[Table 7]

The only significant predictor was once again Romantic Beliefs ($B = .05$, *Wald* = 12.76, $p<.0005$). As in Study 1, a further logistic regression was used to examine which of the three reliable components of Romantic beliefs were important. Again, the overall model was significant in predicting victimhood ($\chi^2(3, N = 362) = 24.73$, $p<.0005$) with a Cox and Snell R^2 of .07. Table 8 shows that the only significant predictor was Idealization, with higher scores being associated with a greater likelihood of being fooled by scammers ($B = 0.22$, *Wald* = 12.90, $p<.0005$).

[Table 8]

Financial and non-financial victims. Further analyses were then performed to compare those victims who had not lost money with those who had. This was because all these individuals had initially been tricked by scammers, but only some had gone on to follow the scam to its conclusion. What sets the financial victims apart from those who terminate their involvement earlier? The same variables hypothesized to differentiate victims and non-victims could also differentiate those who send money from those who do not. Thus, it is hypothesized that victims losing money would be likely to score higher on Loneliness (H1), Extraversion (H2), Agreeableness (H3), Romantic Beliefs (H5) and Sensation Seeking (H6) but lower on Neuroticism (H4) than those for whom there was no financial loss.

The influence of Loneliness, Extraversion, Agreeableness, Romantic Beliefs, Sensation Seeking, Neuroticism on type of victimhood (no cash lost vs. cash lost) was examined using standard forced entry binary logistic regression. The overall model was weak (Cox & Snell R^2 = .054) but significant (χ^2(6, N = 264) = 14.77, p = .022). The only significant predictor was Romantic Beliefs (Table 9).

[Table 9]

A further regression was again performed, assessing the effects of the three reliable components of Romantic Beliefs on severity of victimhood. Now, however, the model shown in Table 10 was non-significant (χ^2(3, N = 318) = 4.15, p = .246) and

none of the Romantic Beliefs subscales was a significant predictor. It appears that the overall Romantic Beliefs score including the Love at First Sight items, rather than just the Idealization subscale, is important here.

Overall, the pattern of results for Study 2, like Study 1,was consistent with only one hypothesis. People with higher levels of Romantic Beliefs were be more likely to be victims (H5), but none of the other variables differentiated victims from non-victims or financial victims from those who had not lost money.

[Table 10]

Combined Analyses: Effects on Victims

A final set of exploratory analyses investigated the outcomes of being scammed. Data from scam victims in both Studies 1 and 2 were combined. Only participants who had used an online dating site and had been tricked by scammers were included in the analyses. At least two kinds of impact may be experienced by scam victims: Financial and emotional. Of these 470 individuals, 239 had lost money, while 231 had not. Even among individuals who had not lost money, it is possible that significant distress could be caused by the experience.

Emotional Impact

Victims reported emotional distress on a 7-point scale anchored at 'Not at all' (1) and 'Very distressed over a long period' (7). Both non-financial (Figure 1) and financial (Figure 2) victims used the whole range of the response scale, indicating that people varied in how affected they were. Of course, distress is likely to be greater among financial victims, and victims who had lost money did report significantly higher emotional impact ($t(416.34) = -13.67$, $p<.0005$) than those who had not ($M = 5.72$, $SD = 1.46$ and $M = 3.55$, $SD = 1.92$ respectively). Fully 40% of financial victims reported being very distressed over a long period (Figure 2).

However, some non-financial victims also reported significant emotional effects. Examining the frequency distribution of reported emotional impact suggests there is a wide, possibly bimodal, distribution in the emotional distress experienced by non-financial victims (Figure 1 for both samples combined; Figure 3 for Sample 1 only).

While the largest proportion of such victims reported no distress, substantial proportions reported much higher levels.

Comparison of Figures 1 and 2 also suggests there may be more variability in the reactions of non-financial victims. Consistent with this, a Levene's test ($F = 41.45$, $p<.0005$) indicated that there was more variance in emotional impact among the non-financial victims (necessitating the use of a t-test with adjusted degrees of freedom in the comparison of financial and non-financial victims reported above).

One interpretation of this pattern of findings is that there may be individual differences in the extent to which victims are affected by the experience of being scammed. Furthermore, these individual differences may exert more powerful effects on emotional distress among those individuals who did not lose money but still considered themselves as having been victims of scammers.

Correlates of emotional distress in the non-financial victims were thus explored and are shown in Table 11. More lonely people, more neurotic people, and those with lower scores on Openness to Experience were significantly more affected. Men ($M = 2.98$, $SD = 1.89$, $N = 82$) and women ($M = 3.88$, $SD = 1.86$, $N = 142$) differed in the extent to which they experienced distress ($t_{(222)} = -3.48$, $p = .001$), with women being more affected.

[Table 11 here]

Financial Impact

There was a significant Spearman's correlation between financial loss and emotional impact ($rs = .398$, $p<.0005$, N = 232). Men and women differed in the typical amount of money lost. A Mann-Whitney test indicated that women reported significantly higher losses ($U = 4646.00$, $p<.020$, $N = 234$), though the median loss for both sexes was reported as £1001-£10,000 ($1601-$16,000 US).

Among those losing money, more neurotic people again reported more distress. Men ($M = 5.25$, $SD = 1.62$, $N = 72$) and women ($M = 5.93$, $SD = 1.34$, $N = 161$) also differed in the extent to which they experienced distress ($t_{(116.75)} = -3.099$, $p = .002$) with more distress again experienced by women. However, a Levene's test ($F = 5.50$, $p = .02$) indicated heterogeneity of variance across the sexes, necessitating use of a t-test with adjusted df, with more variance in distress among men. To explore the source of this variance, the correlational analyses reported in Table 11 were repeated separately for men and women who had lost money. Neuroticism significantly predicted emotional impact ($r = .255$, $p = .03$, $N = 69$) for men but not for women ($r = .114$, $p = .16$, $N = 153$). It therefore appears that the link between Neuroticism and distress in financial victims is attributable entirely to the male participants.

Neuroticism scores are typically higher for women than for men, both on the personality measure used here and on various other measures of the same construct (Buchanan, Johnson & Goldberg, 2005). However, Neuroticism levels of men and women who had lost money did not differ significantly ($t_{(224)} = -.27$, $p = .79$) despite the sample size being sufficiently large to have 93% power to detect a difference of the typical magnitude observed for populations similar to this one ($d = .5$; Costa, Terracciano, & McCrae, 2001). The men in the financial victim group may thus on average be less

emotionally stable than one would normally expect, although the previously reported regression analyses do not suggest Neuroticism is a risk factor for victimization.

General Discussion

Victim Characteristics

There is a paucity of research on the typical psychological characteristics of fraud victims in general, and of romance scam victims in particular. The current study addressed several variables that could potentially play a role, but which in most cases were found not to differentiate victims and non-victims. Of the hypotheses advanced, only one – that romance scam victims would have higher levels of romantic beliefs – was consistent with the data. Clearly, absence of evidence is not the same as evidence of absence of an effect. However, the sample sizes here give a good level of statistical power to detect non-trivial effect sizes. If any of these variables were likely to make a difference in the real world then the current design should have had a good chance of identifying them.

Demographic characteristics. Previously, most victims known to the police (in the UK at least) were presumed to be heterosexual women, of middle age or older (SOCA officers, personal communication, 2011). Data from Study 1 suggest that gay men and women are at risk in the same way as heterosexuals. It may thus be that the crime is especially under-reported in some demographic groups. The practical implication of these findings would be that risk cannot currently be predicted from demographic characteristics.

Psychological variables. Of the psychological variables measured, only Romantic Beliefs, and the belief of Idealization in particular, differentiated victims and non-victims. People with higher Idealization scores were more likely to be fooled by scammers. When considering the direction of causality, it seems likely that having a more romantic orientation predisposes people to victimhood rather than some process whereby encountering the scam makes people more romantic (an unlikely proposition in itself). Romantic Beliefs scores did not correlate with either emotional or financial effects of victimhood (Table 11). If Romantic Beliefs were to change as a result of being scammed, then correlations with these variables would be expected (those victims affected more should experience a greater change).

Idealization reflects a belief in the perfection of relationships, and is measured by the items "I'm sure that every new thing I learn about the person I choose for a long-term commitment will please me", "The relationship that I have with my 'true love' will be nearly perfect", and "The person I love will make a perfect romantic partner, for example he or she will be completely loving, understanding and accepting". Essentially, the romantic idealist puts partners (potential or real) on a pedestal, and is likely to have an unrealistically idealized image of them. It is easy to see how a person adhering to these beliefs might regard the scammer as something they are not, disregard potential warning signs, and be more easily drawn into the 'relationship' (which to them is, of course, a real developing relationship).

While Idealization predicted victimhood in general, it is less clear which element(s) of a victim's romantic attitudes puts them at risk of losing money. In this instance, it seemed to be the overall romantic attitude rather than any specific construct –

although conclusions are compromised by the unreliability of the Love at First Sight subscale. While this would benefit from further exploration, it is clear that overall higher Romantic Beliefs put one at risk of being an online romance scam victim.

However, the effect size is small. The highest odds ratio found - for the risk of being fooled by scammers associated with Idealization in Study 2 - was 1.25, which is equivalent to a Cohen's d of only 0.12 (Tabachnick & Fidell, 2007). This is firmly in the domain of what Cohen (1992) described as a small effect size. Ferguson (2009) tentatively suggests the recommended minimum effect size for regarding effects found in social science data as "practically" significant would be consistent with an odds ratio of 2.0 - a long way above the values found here. Thus, Romantic Beliefs account for a statistically significant but practically very small proportion of variance in the likelihood of becoming a victim. This means that the potential to implement crime prevention strategies based on this finding may be limited.

Of the variables that were not associated with victimhood, Sensation Seeking is perhaps the one that requires most comment. Lea, Fischer, and Evans (2009) argue that sensation seekers may be drawn to involvement in financial scams because of the excitement of the process, the arousal caused by anticipation of the 'big prize'. However, with that and similar frauds there is a strong financial motivation, and the victim essentially plays the role of a co-conspirator with the criminal. The processes of the romance scam appear to be quite different. While some individuals may indeed be drawn into it due to a quest for excitement, in many other cases the processes may be much more complex and closely akin to traditional online relationship development. Given the

current findings around emotional impact, this scenario seems likely and doubt is cast on our original hypothesis around Sensation Seeking.

Effects on Victims

With respect to the effect on victims, a key finding is that many people reported significant emotional impact. Victims experience a 'double hit' of financial loss and psychological distress. Indeed, many people who had not lost any money at all reported very high levels of distress. It was found that there was considerable variance in the distress experienced, with some people much more affected than others.

Because of their self-selected status, Study 2 respondents may be more emotionally affected than the average scam victim: after all, these are people who have chosen to use a victim support site. However, when one considers emotional impact only among victims in Study 1 (most of whom had not lost money), the full range of the scale is still used. A substantive proportion of those participants reported high levels of emotional impact (see Figure 3). This suggests the potential for significant distress is real, and not an artifact of the doubly self-selected status of Study 2 respondents.

While women were typically more affected, some men also reported very high levels of distress. Among male financial victims, it appears to be those with higher Neuroticism scores who were most affected. Across men and women combined, Neuroticism did predict distress in non-financial victims. This is unsurprising, given the well-established links between Neuroticism and the experience of stress and anxiety. Less

emotionally stable people are more prone to emotional upset in general, so are likely to be more affected by the experience of being scammed.

Loneliness was associated with emotional distress among non-financial victims only. One interpretation of this is that for more lonely people, being betrayed and having their hopes dashed may be a more upsetting experience than for the less lonely. The correlation vanishes among those who have lost money. This may be because financial loss can be a more serious outcome in practical terms (especially for those losing very large sums) that might overpower any effects of Loneliness as a determinant of distress.

Among non-financial victims, those with lower Openness to Experience scores reported more emotional effects. It may be that those who prefer to think in more down-to-earth, conventional ways find it more difficult to deal with the idea that they have been drawn into an illusory relationship. Again, any such effect may be overpowered by the more serious practical outcome of financial loss.

It must be acknowledged that the index of emotional experience used here is somewhat of a blunt instrument. It addresses only a general state of distress, while the specific reactions of individual victims are likely to be considerably more nuanced. Future research on victim reactions using multidimensional affect scales, or qualitative methods to explore victims' experiences, would be of value.

Methodological Note

The present findings are based on samples that cannot be said to be representative of the 'general population', so for example absolute prevalence rates for victimhood cannot be extrapolated. The self-selected sample in Study 1 is unlikely to be

representative of all online daters, especially given that the sites participants were recruited from are tailored to a particular demographic constituency (as are many successful dating sites). However, there is no reason to believe that the sample incorporates biases with respect to victimhood (it was not publicized, for example, as a study of romance scams in particular). The one exception to this may be age, as the sites target more mature professional individuals. Thus, the average age of scam victims in the current data may not be representative of scam victims in general. In Study 2, the sample was most likely biased with respect to victimhood: respondents were drawn from a population of scam victims, who were motivated to seek out or share information about their experiences.

However, there is no evidence that the present conclusions are compromised by the biases that are believed to exist, but also to differ across the two studies. Importantly, the same pattern of results with respect to psychological predictors of victimhood was shown across the two studies. This is an example of the 'Multiple Site Entry Technique' advocated for web-based data collection, whereby datasets drawn from different sources are compared to ascertain any influence of self-selection or other biases (Reips, 2002).

Practical Implications

One of the main goals of this project was to develop a typology of romance scam victims, identifying traits that acted as risk factors in order to facilitate development of targeted interventions. It seems unlikely that this is a viable option with the current variable set: a single psychological factor predicted victimization, with an effect size so

low that its real-world significance is limited. Further work to identify other potential risk factors or types of victim would be of value.

However, the findings around emotional impact suggest that attention should be paid to how victims are treated by law enforcement, online dating company client support departments, and other agencies such as victim support charities. At present, there is limited awareness of this crime and many police forces lack experience and information on how to deal with the victims. In particular, they may be unaware of the psychological consequences of falling victim to this crime (SOCA officers, personal communication, 2011). There may be arguments for treating romance fraud victims as intimidated or vulnerable witnesses, in the same way as victims of domestic violence or sexual offences (and indeed some romance scam victims have been sexually abused, being persuaded to perform sex acts on webcam – Whitty & Buchanan, 2012b). Online dating companies dealing with clients who have been fooled also need to be aware of the significant psychological impact that some victims may experience.

Conclusion

The work reported above provides new insights into the characteristics and experiences of people affected by the online dating romance scam. Previous views of 'typical victims' arising from the law enforcement community have been shown to require expansion. The only psychological variable found to be associated with increased risk of victimhood is the romantic belief of Idealization. This has implications for crime prevention strategies, indicating general rather than targeted interventions. It is clear that there are emotional as well as financial consequences of victimhood, and many people

may be seriously affected even if they do not lose money. The level of distress

experienced is associated both with degree of financial loss (if any), and individual

differences. In particular, less emotionally stable men may be especially affected on an

emotional level. The findings around emotional impact have implications both for

understanding the 'victim experience' and for how victims should be treated by law

enforcement and other stakeholders.

Acknowledgements

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Tables

Table 1

Respondents who had used dating sites segmented by sex and sexuality

	Heterosexual		Gay/Lesbian		Bisexual		Total
	M	F	M	F	M	F	
Not fooled	179	317	93	70	12	20	691
Fooled, no loss	32	48	21	4	3	2	110
Told fooled	4	0	1	0	0	0	5
Fooled, lost money	4	5	9	2	0	0	20
Total	219	370	124	76	15	22	826

Note. Respondents with missing data on any of these variables are excluded from the table, so Ns for some analyses are slightly higher.

Table 2

Descriptive statistics for possible predictors of victimhood (Study 1)

	Victims		Non-victims		Whole sample		
	M	*SD*	*M*	*SD*	*M*	*SD*	α^a
Loneliness	48.13	9.64	46.29	10.08	46.58	10.02	.932
Extraversion	29.42	7.02	29.10	7.02	29.16	7.08	.872
Agreeableness	27.49	4.27	28.06	3.93	27.97	3.99	.711
Neuroticism	21.67	6.94	20.47	6.67	20.67	6.72	.857
Sensation Seeking	23.60	5.98	22.57	5.52	22.74	5.60	.775
Romantic Beliefs	64.07	13.67	58.45	13.96	59.36	14.06	.866
Love finds a way	28.97	6.16	27.19	6.66	27.48	6.61	.808
One and only	11.36	4.48	9.89	4.38	10.13	4.40	.794
Idealization	11.81	3.95	9.96	3.85	10.26	3.94	.810
Love at first sight	11.86	3.24	11.38	3.45	11.45	3.42	.555
Age	47.71	10.02	46.06	12.18	46.33	11.87	

[a]Cronbach's alpha internal consistency reliability.

Table 3

Binary logistic regression: predictors of victimhood

Variable	B	S.E.	Wald	df	p	Exp(B)
Loneliness	0.01	0.02	0.36	1	.55	1.01
Extraversion	0.03	0.02	1.71	1	.19	1.03
Agreeableness	-0.01	0.03	0.20	1	.66	0.99
Neuroticism	0.03	0.02	1.86	1	.17	1.03
Romantic Beliefs	0.03	0.01	11.04**	1	.001	1.03
Sensation Seeking	0.02	0.02	1.02	1	.31	1.02
Constant	-5.01	57	10.26**	1	.001	0.01

*p<.05 **p<.005

Table 4

Binary logistic regression: Specific Romantic Beliefs as predictors of victimhood

Variable	B	S.E.	Wald	df	p	Exp(B)
Love Finds a Way	-0.01	0.02	0.07	1	.79	1.00
One and Only	0.04	0.03	1.82	1	.18	1.04
Idealization	0.10	0.03	10.34**	1	.00	1.11
Constant	-2.97	0.43	47.07**	1	.00	0.05

*p<.05 **p<.005

Table 5

Study 2 respondents who had used dating sites segmented by sex and sexuality

	Heterosexual		Gay/Lesbian		Bisexual		Total
	M	F	M	F	M	F	
Not fooled	15	27	0	0	0	3	45
Fooled, no loss	25	88	0	0	0	1	114
Told fooled	1	0	0	0	0	0	1
Fooled, lost money	59	152	2	0	0	3	216
Total	100	267	2	0	0	7	376

Note. Respondents with missing data on any of these variables are excluded from the table, so Ns for some analyses are slightly higher.

Table 6

Descriptive statistics for categories and possible predictors of victimhood (Study 2)

	Non-victims			Victims who did not lose money			Victims who lost money			All			
	M	*N*	*SD*	*M*	*N*	*SD*	*M*	*N*	*SD*	*M*	*N*	*SD*	α^a
Loneliness	44.18	38	10.87	44.75	104	10.61	48.68	195	10.79	46.96	337	10.91	0.94
Extraversion	29.61	41	6.90	30.46	107	6.83	27.61	199	7.27	28.72	347	7.19	0.87
Agreeableness	28.90	41	3.04	29.57	107	3.76	29.33	200	3.71	29.35	348	3.65	0.68
Neuroticism	19.30	40	5.98	18.93	107	5.87	20.77	200	6.42	20.03	347	6.25	0.81
Sensation Seeking	21.98	42	6.86	20.87	111	4.97	20.02	207	5.03	20.51	360	5.28	0.75
Romantic Beliefs	52.35	40	14.22	59.68	107	15.54	64.20	201	14.98	61.45	348	15.51	0.88
Love Finds a Way	26.65	40	7.77	28.10	110	6.97	29.52	203	6.82	28.75	353	7.03	0.80
One and Only	8.63	41	4.05	10.42	113	4.52	11.34	206	4.54	10.74	360	4.55	0.74
Idealization	8.05	42	3.95	10.52	111	4.00	11.46	208	4.08	10.78	361	4.17	0.81
Love at First Sight	8.90	42	3.68	10.42	112	3.29	11.71	206	3.24	10.98	360	3.43	0.53
Age	46.05	41	12.13	52.34	114	9.68	52.95	210	9.14	52.00	365	9.89	

[a]Cronbach's alpha internal consistency reliability.

Table 7

Binary logistic regression: Predictors of victimhood (Study 2)

	B	SE	Wald	df	p	Exp(B)
Loneliness	0.02	0.03	0.75	1	.39	1.02
Sensation Seeking	-0.06	0.03	3.40	1	.07	0.9
Extraversion	-0.08	0.04	0.05	1	.82	0.99
Agreeableness	0.05	0.05	0.91	1	.34	1.05
Neuroticism	-0.04	0.04	1.06	1	.30	0.96
Romantic Beliefs	0.05	0.01	12.76***	1	.00	1.05
Constant	-0.90	2.80	0.10	1	.75	0.41

*p<.05 **p<.005 ***p<.0005

Table 8

Binary logistic regression: Specific Romantic Beliefs as predictors of victimhood (Study 2)

	B	S.E.	Wald	df	p	Exp(B)
Love Finds a Way	-0.02	0.03	0.56	1	.44	0.98
One and Only	0.03	0.05	0.31	1	.56	1.03
Idealization	0.22	0.06	12.90***	1	.00	1.25
Constant	0.24	0.67	0.13	1	.72	1.27

*p<.05 **p<.005 ***p<.005

Table 9

Binary logistic regression: Predictors of victims losing money

	B	S.E.	Wald	df	p	Exp(B)
Loneliness	0.00	0.02	0.05	1	.83	1.00
Sensation Seeking	-0.02	0.03	0.46	1	.50	0.98
Extraversion	-0.04	0.03	2.09	1	.15	0.96
Agreeableness	0.05	0.04	1.41	1	.24	1.05
Neuroticism	0.00	0.03	0.01	1	.92	1.00
Romantic Beliefs	0.02	0.01	6.34*	1	.01	1.02
Constant	-0.91	2.00	0.21	1	.65	0.40

*p<.05 **p<.005

Table 10

Binary logistic regression: Specific Romantic Beliefs as predictors of victims losing money

	B	S.E.	Wald	df	p	Exp(B)
Love finds a Way	0.00	0.03	0.02	1	.88	1.00
One and Only	0.02	0.03	0.50	1	.48	1.03
Idealization	0.03	0.04	0.64	1	.43	1.04
Constant	-0.10	0.51	0.04	1	.85	0.90

*p<.05 **p<.005

Table 11

Correlates of emotional and financial outcomes

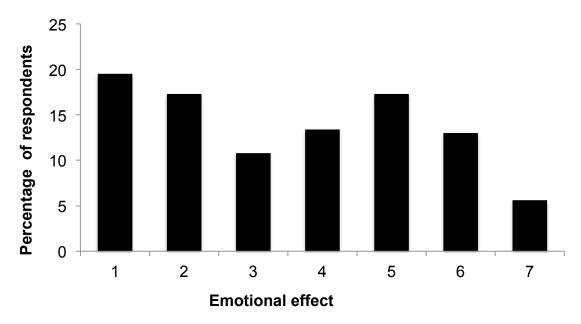|	Emotional Distress						Money Lost		
	Non-financial			Financial victims					
	r	*p*	*n*	*r*	*p*	*n*	*rs*	*p*	*n*
Loneliness	0.22**	0.00	205	0.08	0.24	215	0.10	0.13	216
Sensation Seeking	-0.11	0.12	220	-0.10	0.14	230	-0.08	0.25	231
Total Romantic Beliefs	0.03	0.65	213	0.03	0.70	224	-0.03	0.67	225
Love Finds a Way	0.03	0.62	218	-0.03	0.61	226	-0.05	0.49	227
One and Only	0.11	0.12	222	0.12	0.07	229	0.00	0.99	230
Idealization	0.00	0.95	218	-0.01	0.84	232	-0.02	0.74	233
Extraversion	-0.06	0.37	213	-0.04	0.58	223	-0.03	0.69	225
Openness	-0.17*	0.01	215	-0.09	0.19	225	-0.04	0.56	226
Neuroticism	0.19*	0.01	213	0.16*	0.02	224	0.11	0.11	225
Conscientiousness	-0.02	0.76	210	-0.05	0.44	218	-0.09	0.18	219
Agreeableness	0.06	0.36	214	0.00	0.98	223	0.05	0.45	224
Age	0.05	0.44	223	-0.02	0.79	234	0.22**	0.00	234

*p<.05 **p<.005

Figure 1

Figure 1. Reported emotional effect on victims who had not lost money across both

samples (*Not at all* to *Very distressed over a long period)*.
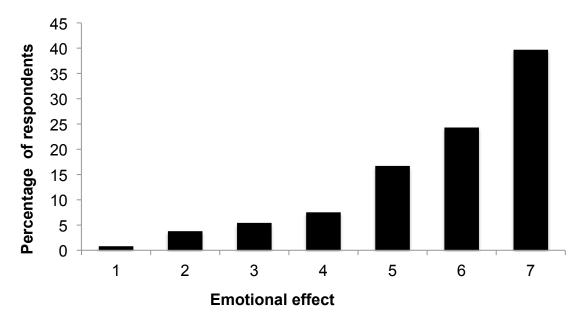
Figure 2

Figure 2. Reported emotional effect on victims who had lost money across both samples

(*Not at all* to *Very distressed over a long period)*.

Figure 3

Figure 3. Reported emotional effect on all victims in Sample 1 only (*Not at all* to *Very distressed over a long period*).