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Consumer perception of service quality attributes at sporting events

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Abstract
Purpose – The purpose of this study is to enhance understanding of service quality at major spectator sports events by developing a conceptual framework and measurement scale specifically designed for assessment of spectators' perceptions of event quality.
Design/methodology/approach – Utilising a comprehensive literature review and detailed qualitative preliminary procedures, a comprehensive model of event quality for spectator sports (MEQSS) and a measurement scale of event quality in spectator sports (SEQSS) are developed. The models are then tested using confirmatory factor analysis and structural equation modelling using data from a quantitative survey of a convenience sample of spectators at inter university badminton league.
Findings – The proposed model is shown to fit the data well. Reliability and validity of the SEQSS are established through the substantive survey.
Research limitations/implications – The findings of the study are limited by the sample being restricted to a single sport. Further studies in other settings using larger samples are desirable.
Practical implications – The study provides a valid and reliable conceptual framework and measurement tool that can be used to ascertain the quality perceptions of consumers of major spectator sports events. Managers can use this framework and measurement scale as a diagnostic tool to identify strengths and weaknesses in their services, this providing guidance for potential areas of improvement.
Originality/value – This study extends the literature on service quality by providing a unique conceptual framework and measurement scale for major spectator sports events.

Keywords: Customer service quality, Sporting events, Customer service management

1. Introduction

Addressing the needs of the customers and understanding their perspectives on service quality (SQ) have become essential for fitness organisations in a competitive environment. Inline with global trends, the UK fitness market continues to show sluggish growth (FIA, 2011). Major spectator sports constitute a large, expanding and competitive industry. However, many sports organisations are facing resistance from their customers as a consequence of increasing prices and heightened expectations regarding event quality (Howard and Crompton, 2004) [27]. Examples of this phenomenon in the United States are the major professional sports leagues i.e., National Football League, Major League Baseball, National Basketball Association and National Hockey League, all of which are struggling to keep operational costs down while continuing to provide the best-possible on-field product and customer services. Similar comments apply to major spectator sports events in other countries. In this business environment, the ability to offer high-quality events and services has become a critical issue for professional sports organisations. As in all service industries, the provision of high-quality services to consumers promotes customer satisfaction and loyalty which, in turn, enhances the profitability of the service provider (Anderson *et al*., 1994; Anderson & Sullivan, 1993; Dagger & Sweeney, 2007 and Fornell, 1992) [2, 1, 14, 19]. In this regard, Martinez *et al*. (2010) [38] have identified service quality as one of the most important issues facing contemporary sports marketers because it is a:

- Proxy measure of management performance;
- Significant factor in the positioning of the company; and
- Key determinant of critical consumer-behaviour variables, such as customer loyalty.

Although generic instruments exist for assessing service quality, such as the well-known SERVQUAL instrument (Parasuraman *et al*., 1988, 1994) [44-45], relatively few studies have actually attempted to measure service quality in the specific context of sports events (Getz *et al*., 2001) [22]. Nevertheless, several studies have helped to establish a general foundation for understanding the quality perceptions of consumers with regard to sports event operations (Kelley & Turley, 2001; Theodorakis *et al*., 2001; Wakefield *et al*., 1996 and Westerbeek & Shilbury, 2003) [30, 51, 53, 55].
Against this background, the purpose of the present study was:

- To propose a comprehensive theoretical model of event quality in sports industry.
- To test the psychometric properties of the proposed model by developing an appropriate scale for measuring event quality.

2. Theoretical Background and Conceptual Model

Parasuraman *et al*. (1985, p. 16) [43] defined perceived service quality as "a global judgment or attitude relating to the superiority of a service". In a similar vein, Bitner & Hubbert (1994) [8] suggested that service quality is "the consumer's overall impression of the relative inferiority/superiority of the organization and its services". In the context of the sports and

leisure sector in general, service quality has been measured by both the generic SERVQUAL instrument and by modified versions of the scale adapted to the specific circumstances of the sports industry (Crompton *et al*., 1991; Howat *et al*., 1996; McDonald *et al*., 1995 and Wright *et al*., 1992) [11, 28, 36, 56]. There have also been attempts to measure service quality in the specific context of spectator sports (Kelley and Turley, 2001; McDonald *et al*., 1995; Theodorakis and Alexandris, 2008; Theodorakis *et al*., 2001) [30, 36, 50, 51]. For example, McDonald *et al*. (1995) [36], who developed the 39-item TEAMQUAL scale by modifying the five-dimensional structure of SERVQUAL, measured the performance of ticket takers, ticket users, merchandisers, concessionaires and customer representatives by applying simultaneous measurements of expectations and perceptions of spectators attending event and then using the weighted average scores of the five dimensions to determine overall service quality. In another example, Theodorakis *et al*. (2001) [51] assessed perceptions of service quality among sports spectators by developing the SPORTSERV scale, which consists of 20 performance-only items representing five dimensions of service quality:

(1) Tangibles (cleanliness of the facility);
(2) Responsiveness (willingness of personnel to help);
(3) Access (accessibility of stadium);
(4) Security (personal security during games); and
(5) Reliability (delivery of services as promised).

3. Proposed Conceptual Model

The proposed conceptual model for the present study, which was designated as the Model of Event Quality for Spectator Sport (MEQSS), was developed on the basis of several focus group interviews and an extensive literature review. The primary context for the proposed model was posited as INTER University Badminton League, although it was understood that the model (and subsequent measurement scale) is likely to be applicable to other major spectator sports. All participants attending sporting events were taken as respondents for primary data collection. In this initial stage of model development, participants were requested to generate a list of elements that influence the experiences of spectators at major sports events. These included:

- Main products (for example, game performance);
- Secondary products (for example, in-game promotion, cheerleading, memorabilia, food & beverage);
- Other tangible elements (for example, stadium quality and parking services); and
- Other intangible elements (for example, services from event staff).

The researchers conducted an extensive literature review to identify key factors that determine service and event quality in major spectator sports events then this information was combined with the information from the focus groups to generate a conceptual framework.

Table 1: Dimensions and Sub-Dimensions of the Proposed Meqss

Dimensions	Sub-dimensios	Definitions(in terms of spectators perceptions)
Game quality	Skill performance, Operating time, Information	Quality of athletic performance: aesthetics, excitement, drama Convenience of operating hours Ease of obtaining up-to-date information about teams, players, products, and events
Augmented service quality	Entertainment, Concessions	In-game promotion, events, and activities (in addition to game product) Availability of wide range of food choices
Interaction quality	Employee interaction, Fan interaction	Attitudes, behaviours, and expertise of service personnel Attitudes and behaviours of other clients Outcome quality Sociability
Outcome quality	Valence, Sociability	Positive social experiences of being with others who enjoy the same activity. Post consumption evaluation of overall outcome (regardless of evaluation of specific aspects of service quality)
Physical environment Quality	Ambience, Design, Signage	Non-visual aspects of service environment: temperature, lighting, noise, scent, music Functional and aesthetic design of the sports facility Ease of viewing and aesthetic attractiveness of signs within the facility

4. Methodology

4.1Development of SEQSS instrument

As indicated above, a measurement tool known as the scale of event quality for spectator sports (SEQSS) was developed to test the proposed conceptual model (MEQSS). The SEQSS was developed in accordance with the scale-development procedures suggested by Nunnally and Bernstein (1994). Many of the measurement items for inclusion in each sub-dimension were adopted and/or modified from the items of various existing scales (Brady and Cronin, 2001; Crompton *et al*., 1991; Howat *et al*., 1996; Ko and Pastore, 2005; Parasuraman *et al*., 1988) [10, 11, 28, 34, 44]. For example, one item entitled "Class/program times are convenient", which had appeared in the "operating time" dimension of Ko and Pastore's (2005) [34] scale, was adapted by replacing the words "class/program" with the word "game". For the new sub-dimensions ("skill performance", "concessions", and "signage"), a list of potential items was generated from a review of the relevant literature.

Table 2: Factor Loadings, Construct Reliability and Aves for Seqss

Factor	Items	Λ	Cr	Ave
Skill performance	The players' skills make me excited	0.70	0.76	0.52
	The team provides a high-quality event for me	0.79		
	Skill performance of my team's players is excellent	0.65		
Operating time	The operating hours of the events are convenient	0.85	0.91	0.78
	Game times are convenient	0.92		
	The times for watching the game are convenient	0.89		
Information	Up-to-date information is available on events/team	0.78	0.86	0.66
	Information about the event is easy to obtain	0.86		
	I can easily get information about the event through the internet	0.80		
Entertainment	The show combined with the game is entertaining	0.64	0.81	0.59
	The show is just as exciting as the game	0.86		
	Pre- and after-game shows are entertaining	0.82		
Concessions	The facility provides high-quality food	0.85	0.88	0.70
	The concessions offer a wide variety of foods	0.80		
	The quality of food of the concession stands impresses me	0.87		
Employee interaction	The employees seem very knowledgeable about their jobs	0.72	0.90	0.65
	I can count on the employees at this event to be friendly	0.82		
	The employees handle problems promptly and satisfactorily	0.81		
	Employees in the event deal effectively with the special needs of each customer	0.82		
	The demeanour of the staff is pleasant	0.86		
Fan interaction	I am generally impressed with the other spectators	0.73	0.83	0.62
	Spectators follow rules and regulations	0.74		
	I find that other spectators consistently leave me with a good impression of the service	0.88		
Sociability	I feel a sense of family among the fans at the event	0.86	0.82	0.61
	I really enjoy the social interaction in the event	0.90		
	I have quality time with my friends/family at the event	0.54		
Valence	I feel good about what I get from this event	0.84	0.82	0.61
	I evaluate the outcome of the event favourably	0.79		
	Attending the event has helped me to become a loyal fan	0.70		
Ambience	The stadium/arena's ambience is excellent	0.81	0.87	0.69
	The stadium's ambience is what I'm looking for in a spectator sport setting	0.87		
	The facility is clean and well maintained	0.82		
Design	I am impressed with the design of the facility	0.84	0.83	0.56
	The facility is safe	0.81		
	I can move freely in this facility	0.75		
	It is easy to get in and out of the facility	0.56		
Signage	Signs help me to find my way around the facility	0.75	0.86	0.60
	There are enough signs directing me to various necessities	0.84		
	Scoreboard is aesthetically attractive	0.79		
	Scoreboard is easy to read	0.72		

As a result of these procedures, an initial pool of 71 items (representing 12 sub-dimensions) was generated. These items were then incorporated as statements into a measurement instrument utilising a seven-point Likert-type scale (1 ¼ "strongly disagree" to 7 ¼ "strongly agree"). 56 items were included in a questionnaire for a pilot field test. the final version of the instrument had a total of 40 items representing 12 sub-dimensions of event quality (with each sub-dimension having three-to-five items) (see Table III). 3.2 Sample and data collection

The SEQSS scale was administered to spectators attending a Major League Baseball (MLB) game, located in the Pacific Northwest region of the USA. Questionnaires were distributed to a convenience sample of 400 spectators who were intercepted individually as they entered the event through the two main gates. Members of the research team were stationed at the exit points to collect the surveys at the conclusion of the game. A total of 274 completed questionnaires were returned (69 per cent response rate), of which 220 were usable for data analyses. The sample size exceeded the minimum sample size (200) recommended for structural equation modelling with maximum likelihood estimation (Hair *et al*., 2005) [25]. An examination of the demographic data included in the survey (gender, age, income) revealed that the characteristics of the sample were consistent with the general profile of MLB spectators. For example, 61 per cent of respondents were male and 38 per cent was female.

4.2 Data analysis

Data were analysed using SPSS 14.0 and EQS 6.1 (Bentler and Wu, 2002) [6]. The goodness-of-fit of the measurement and structural models was tested using EQS with maximum likelihood (ML) method. Goodness of fit of the model to the data was assessed with comparative fit index (CFI), standardised root mean square residual (SRMR), root mean square error of approximation (RMSEA), and x2/df. The convergent validity of the measures was assessed by factor loadings, AVE values, and reliability coefficients (Hair *et al*., 2005) [25]. Discriminant validity was established when the estimated correlations between the factors or dimensions were found not to be excessively high (Kline, 1998) [32] and when the squared correlations between a construct and any others were found to be less than the AVE for each construct (Fornell and Larcker, 1981) [20].

5. Results

5.1 Descriptive statistics

Descriptive statistics for the 12 sub-dimensions are shown in Table IV. The means of the sub-dimensions (on a scale of 1 to 7) ranged from 4.82 ("fan interaction") to 5.88 ("ambience"). The standard deviation (SD) ranged from 0.94 to 1.19. Because ML statistics are very sensitive to non-normality (Bentler, 2004) [5], the combined data for kurtosis was first checked using Mardia's (1970) [37] coefficient of multivariate kurtosis. The skewness values indicated that all of the items were negatively skewed ðrange ¼ 21:45 to 20.14). The kurtosis values ranged from 20.54 to 2.82. Examination of multivariate kurtosis (Mardia's coefficient ¼ 362:35 and normalised estimate ¼ 42:36) indicated that the assumption of multivariate normality was tenable – because this value was smaller than the 1,680 cut-off point derived from the formula pðp þ 2Þ, where p represents the number of observed variables (Bollen, 1989) [9]. As a consequence, Satorra-Bentler scaled chi-square (S-B x2) and robust comparative fit index (robust CFI) were used.

5.2 First-order measurement model test

Overall model fit of the measurement model was found to be good. Fit statistics showed that the chi-square/df ratio (x2 ¼ 816:40, df ¼ 662, x2=df ¼ 1:23, p, 0:01) was below the suggested threshold of 3.0 (Kline, 1998) [32]. The RMSEA value of 0.033) was below the recommended threshold of 0.08 (Hu and Bentler, 1999) [29]. The incremental fit index (IFI) of 0.97) and the CFI of 0.97) were, as recommended, greater than the threshold of 0.95 (Hu and Bentler, 1999) [29].

5.3 Structural model test

The fit of the overall model was good (x2=df ¼ 1:40, RMSEA ¼ 0:043, IFI ¼ 0:94, CFI ¼ 0:94). In addition, significant factor loadings supported the proposed hypothetical relationships between dimensions and sub-dimensions. The factor loadings of the relationships are shown in Figure 1. The proposed structural model fitted the data well. All the measured variables, except for three items, were found to correlate with their respective factors at a reasonably strong level.

5.4 Reliability and validity

Reliability was assessed using construct reliability and AVE for each factor (see Table 3).

Table 3: Means, Sd and Correlations Matrix

Statements	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
Skill	5.06	1.07	0.5[a]											
Hours	5.61	1.07	0.66	0.78[a]										
Information	5.76	1.06	0.48	0.49	0.66[a]									
Entertainment	4.87	1.03	0.53	0.51	0.34	0.59[a]								
Concessions	4.94	1.19	0.36	0.45	0.44	0.66	0.70[a]							
Interaction	5.16	0.97	0.53	0.57	0.61	0.53	0.62	0.65[a]						
Fan interaction	4.82	1.02	0.43	0.47	0.36	0.56	0.50	0.80	0.62[a]					
Sociability	5.44	0.98	0.46	0.47	0.41	0.53	0.39	0.70	0.64	0.61[a]				
Valence	5.27	0.99	0.72	0.60	0.58	0.56	0.50	0.80[c]	0.74	0.78	0.61[a]			
Ambience	5.88	1.01	0.62	0.67	0.57	0.59	0.54	0.71	0.60	0.56	0.71	0.69[a]		
Design	5.53	1.00	0.55	0.60	0.58	0.52	0.60	0.74	0.64	0.56	0.69	0.98[b]	0.56[a]	
Sign	5.77	0.94	0.51	0.58	0.54	0.49	0.47	0.61	0.53	0.47	0.65	0.96[b]	0.97b	0.60[a]

Notes: a Average variance extracted; b High correlation between factors; c Correlation failed the AVE discriminant validity test

The construct reliability ranged from 0.76 ("skill performance") to 0.91("operating time"). The AVE measures ranged from 0.52 ("skill performance") to 0.78 ("operating time"); all were greater than the recommended standard of 0.50. These results indicated that the items were highly reliable in measuring the constructs. Convergent validity is established when each item has a significant factor loading on each construct (Anderson and Gerbing, 1988) [3]. As shown in Table III, all factor loadings were significant, with z scores ranging from 4.12 to 12.04 (p, 0:05). Using a significance level of 0.05, any scores greater than 1.96 in magnitude for a two-tail test would be statistically significant (Bentler, 2004) [5]. Apart from four items ("skill 3" ¼ 0.65, "entertainment 1" ¼ 0.64, "sociability 3" ¼ 0.54, and "design 4" ¼ 0.56), the factor loadings for the other 36 items (90 per cent of all items) were greater than the conservative threshold of 0.70. In addition, the significant relationships between the five primary dimensions and their 12 sub-dimensions, along with the relationships between the five dimensions and the construct of event quality provide further support for the convergent validity of the scale (Anderson and Gerbing, 1988) [3]. Loadings ranged from 0.67 ("information") to 0.98 ("design"). All were statistically significant, with z scores ranging from 4.40 to 19.34 (p, 0:05). This result indicates that the sub-dimensions converged on their common factor. With regard to discriminant validity, a CFA revealed high factor correlations among the sub-dimensions of "physical environment quality". As shown in Table IV. these were 0.98 between "ambience" and "design", 0.96 between "ambience" and "signs", and 0.97 between "design" and "signs". Based on Fornell and Larcker's (1981) [20] method, there was also one additional high correlation between "valence" and "interaction with staff".

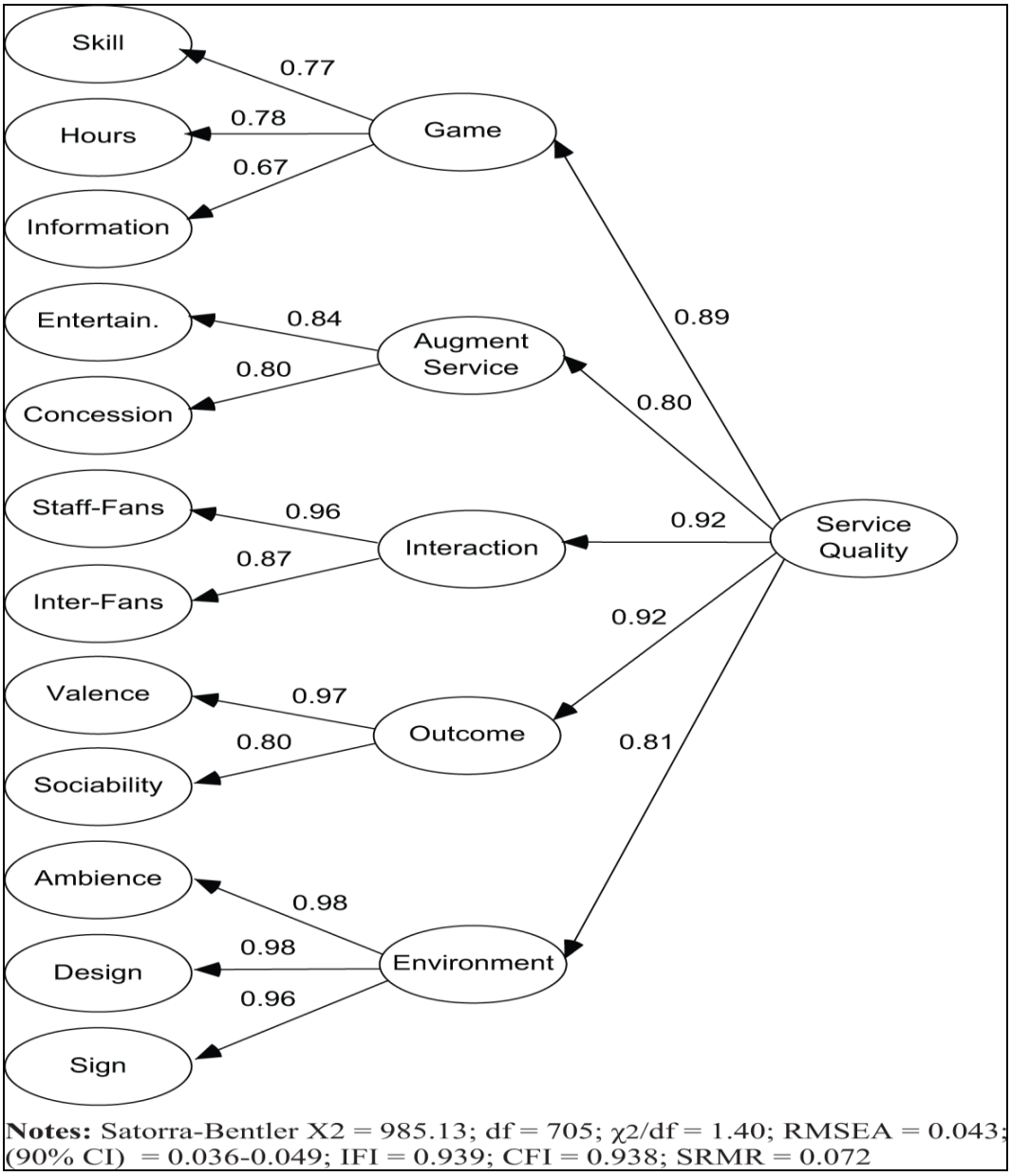

Fig 1

6. Conclusion

The present study makes two important contributions to the literature on event management and marketing. First, the study has proposed a conceptual Model of Event Quality for Spectator Sports (MEQSS), which provides a systematic framework of the factors involved in spectators' perceptions of event quality in major spectator sports events. Secondly, the study has drawn on the MEQSS to propose and test a measurement Scale of Event Quality in Spectator Sports (SEQSS), which offers marketers and researchers a measurement tool to assess event quality from the consumer's perspective – and thus the opportunity to identify areas that need improvement in event operations. With regard to the first of these contributions, the study has shown that the MEQSS provides an accurate description of the concept of event quality in the context of major spectator sports. The third-order factor structure of the construct of event quality has been confirmed by the overall good fit of the model, the statistically significant factor loadings, and the significant correlations among the various dimensions. These findings are in general accordance with Ko and Pastore's (2004, 2005) [33-34] conceptual approach to service quality in sport events. The findings also demonstrate that the construct of event quality in spectator sports is similar to the multi-level concepts of service quality that have been demonstrated in many other settings (Brady and Cronin, 2001; Dabholkar *et al*., 1996; Ko and Pastore, 2005; Ko *et al*., 2008) [10, 34, 35]. With regard to the second contribution, confirmatory factor analysis of the SEQSS, which was developed to test and complement the conceptual model, has provided strong evidence of the reliability and convergent validity of the scale. Taken together, these two contributions have significantly expanded theoretical and practical knowledge of event quality by providing a conceptual framework (MEQSS) and measurement scale (SEQSS) for major spectator sports events.

7. Managerial Implications

The findings of this study have important implications for

managers and marketers of major spectator sports events. The SEQSS can provide event managers with a reliable and valid analytical tool for measurement of spectators' perceptions of event quality. More specifically, the five dimensions of the framework can be used ("game quality", "augmented services quality", "interaction quality", "physical environment quality" and "outcome quality") to identify potential problem areas in event operations and thus provide guidance for future improvement of services. An understanding of particular operational strengths and weaknesses is of crucial importance to managers who seek to increase spectator patronage through the provision of excellent on-field and off-field products and services. The sub-dimensions of the SEQSS are sufficiently generic to lend themselves to other industry segments – such as musical concerts, product conventions, and professional conferences and symposia. Although some items might require some adaptation, managers in these service sectors can utilise the SEQSS to obtain a better idea of their customers' experiences of their events. For many of these events, which draw much of their revenue from ticket sales, the ability to diagnose specific aspects of their customers' service experiences is critical to drawing large numbers of spectators and thus establishing market leadership.

8. Limitations

Several limitations are acknowledged in the present study. First, the conceptual model (and the accompanying measurement scale) was developed primarily in the context of inter university badminton league and other major spectator sports held in large sporting arenas. Although it is likely that the sub-dimensions are reasonably generic, it is true that further studies would be required to ascertain whether the proposed conceptual frameworks are equally applicable to various other sports settings. Second, the psychometric properties of the measurement scale have been verified with only a limited sample (that is, the spectators at one event). Further tests of the psychometric properties of the scale using broader samples in other event contexts would be desirable to increase confidence in the generalisability of the scale.

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