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DASA

Dynamic Appraisal of Situational Aggression

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Orientation to this Manual

The Dynamic Appraisal of Situational Aggression (DASA) is a brief actuarial risk assessment instrument designed to assist in the appraisal of risk for violence within 24 hours following administration. This manual is designed to assist users to administer the DASA properly, make sense of the score, and provide some basic principles for implementation. The first part of the manual reviews reasons for the development of a new manual and describes the key differences between the first and second versions. Following is a background description of violence risk assessment and an overview of the rationale and nature of the DASA. The manual then describes the development of DASA and its scoring procedures. After that there is a description of implementation approaches and issues and a summary of extant research into DASA. There is then a discussion of the association between risk assessment and violence prevention and how DASA can be used as a part of an aggression prevention program.

Reasons for a Second Edition and summary of changes

The original version of DASA was published by the Centre for Forensic Behavioural Science quickly after it was developed and initially validated. This occurred because there was a need to provide information to support services that showed an immediate interest in the instrument (Ogloff & Daffern, 2006). Since this time the risk assessment field has grown and research exploring the psychometric properties and application of DASA has expanded. Attempts have also been made to address critical questions concerning the effect of risk assessment on violence prevention. Finally, there have been recent studies exploring the predictive accuracy of DASA that have utilised sophisticated statistical techniques. One particular study (Maguire, Daffern, Bowe, & McKenna, 2017) indicated an adjustment to the DASA risk bands (i.e., Low, Moderate, and High risk levels). For these reasons, it is timely to publish a new edition of DASA.

Most of the features of DASA remain unchanged in this version of the manual. However, there are three areas where we are making changes to the DASA. First, we have made a slight change in the name of the measure, to better reflect its use. Second, we have eliminated that scoring adjustment adopted in the original manual when a risk factor is present but does not lead to aggression in a patient well known to a service. Third, we have adopted an actuarial scoring result rather than one that includes some exercising of professional judgement. Each one of these changes is discussed in the relevant sections of the manual, but we have summarised the key points below.

Name change

Although the DASA items remain unchanged, there has been a slight change to the name of the measure, with 'Inpatient Version' removed. When DASA was initially developed it was referred to as the Dynamic Appraisal of Inpatient Aggression (DAIA). With growing interest in applying the DAIA to other populations and settings (e.g., prisons), it seemed prudent to change the name to the Dynamic Appraisal of Situational Aggression, with different versions indicated via instrument titles (e.g., 'Inpatient Version', 'Youth Version'). However, testing of DASA in different populations and settings has only resulted in the development of three versions ('Womens', 'Inpatient' and 'Youth'). As such, we have decided to name the inpatient version DASA and remove the reference to 'Inpatient Version', as DASA is the term most commonly used to describe the adult inpatient version. The Youth Version is retained and will be referred to as the Dynamic Appraisal of Situational Aggression: Youth Version (DASA:YV).

Reasons for a Second Edition and summary of changes

Elimination of the DASA item scoring adjustment for patients familiar to the service

We have also removed the requirement to adjust DASA item scores based on familiarity of the patient. In the original version we sought to provide a scoring system that allowed for assessors to adjust their scoring based upon familiarity with the person being assessed and specifically, with an understanding of the relationship between each risk factor and aggression for the person being assessed. For this reason, we included the following adjustment to the scoring:

Importantly, for well-known patients an increase in the behaviour is coded as '1', whereas the habitual behaviour while being nonviolent is coded as '0'. For example, a well-known patient who is always irritable or unwilling to follow directions but is never aggressive would be coded as '0' on these two characteristics. Conversely, if the patient is not generally irritable and unwilling to follow directions, but has behaved this way over the past 24 hours, then they would be coded as '1'. For patients who are not well known to staff the items are coded as present ('1') or absent ('0').

Although consideration of changes in the endorsement of risk factors for an individual patient¹ may be important, we have found that the adjustment to scoring generated unnecessary confusion. Some assessors have wondered how long it takes for a person to be considered 'well known', and we are not convinced that staff score patients according to this adjustment. To simplify scoring we are now recommending that each item is scored as either present or absent rather than inviting decisions about whether an item is relevant to each person being assessed. Ultimately, the results of the assessment affect practice when an assessor completes an assessment, interprets the scores, and then determines (1) whether intervention is necessary, and, if so (2) which intervention is most suitable. The DASA assessment will produce a risk rating, and staff then need to tailor intervention to the particular patient, considering the DASA assessment and their knowledge of what may be helpful for the patient on this particular day.

1. We have chosen to use the term 'patient' throughout the manual as this is the term preferred by the Thomas Embling Hospital Consumer Advisory Group. We acknowledge there is debate within the field regarding the most appropriate and respectful terminology to use with regard to patients. We also note that in 2013 the Council of the Royal College of Psychiatrists (United Kingdom) selected 'patient' as the preferred collective noun for people accessing mental health services (for a discussion of this, see Christmas & Sweeney, 2016).

DASA has been subjected to a good deal of empirical evaluation. As such, one key addition to the second edition is a description of the psychometric properties presented within these studies. Of note, the DASA has demonstrated largely good predictive accuracy for violence within the next 24 hours in forensic inpatient mental health units in various mental health inpatient units around the world. Moreover, emerging evidence suggests that the DASA is predictive in female, youth, and nonforensic populations.

One particularly important piece of DASA research has been presented by Maguire and colleagues (2017). This research analysed DASA assessments using sophisticated statistical techniques accounting for clustering of data, which is appropriate when participants are repeatedly evaluated. Early research on DASA did not utilise these statistical procedures. Maguire and colleagues' research suggest different 'risk bands' can maximise the utility of DASA results (0 = low, 1–3 = moderate, 4–7 = high). These revised risk bands are adopted in this edition. In their study, only in 4% of occasions when the patient was scored as low (i.e., 0) was the patient aggressive in the following 24 hours; on 16.7% (n = 20) of occasions when the DASA was a 1, 20.4% (n = 20) when the DASA was a 2, 21.7% (n = 13) when the DASA was a 3, 35.3% (n = 12) when the DASA was a 4, 25% (n = 6) when the DASA was a 5, 66.7% (n = 12) when the DASA was a 6, and 72.4% (n = 21) when the DASA was a score of 7.

We recommend DASA researchers continue to explore the psychometric properties of both these revised risk bands and the original thresholds to establish the optimal categories for different populations. Where services are looking to implement DASA without first comparing the different risk bands, we suggest use of the new bands, as presented in this edition of the manual. This is because the new bands separate 0 from a score of 1, which indicates a different, albeit minor, elevation in risk state that may sensitise assessors to subtle changes in the person's mental state. Further, we have greater confidence that these new risk bands are more precise (as indicated by reduced overlap of confidence intervals) than the original risk bands. We encourage researchers to test both sets of bands.

Reasons for a Second Edition and summary of changes

Further comments on the new edition

Another change relates to the recommendation that the final risk rating should be calculated in an actuarial manner. In the original DASA scoresheet, there was a row reflecting the 'Final Risk Rating' that was calculated 'Based on the DASA score and clinical assessment rate (H) high, (M) medium or (L) low risk for the next 24 hours'. Research comparing DASA scored in an actuarial manner (the summed total score) to a structured professional judgement approach (calculated after an assessor scores each item and then determines the risk level taking into account other case-specific factors) has also shown that actuarial DASA ratings are more accurate than when the DASA is used in a structured professional judgement manner (Griffith, Daffern, & Godber, 2013).

Further to its widespread use and the growing body of published research using DASA, it has also been endorsed by the National Institute for Clinical Excellence (NICE; 2015) in the United Kingdom. NICE recommended that when assessing and managing risk of violence, services should consider using a structured prediction instrument, like the DASA, rather than relying on unstructured professional judgement alone. NICE suggests that a comprehensive structured DASA assessment in inpatient mental health settings is likely to assist with (a) monitoring and reducing incidents of violence and aggression and (b) the development of risk management plans.

The introduction of a risk assessment instrument can be a challenging task for any service provider. Despite generally promising findings regarding structured risk assessment use, barriers in implementing innovative risk assessment approaches often exist. As such, we have deemed it important to outline in the second edition core principles that may be drawn upon to guide the successful implementation of the DASA. A range of empirical studies that have examined the effect of introducing the DASA on incidents of aggression and use of restrictive practices to manage aggression are presented. Results of recent studies that have tested an electronic application of DASA with a linked Aggression Prevention Protocol (eDASA) are presented. These findings are drawn upon to emphasise important factors that have affected DASA implementation in real-world settings.

Furthermore, assessment of violence risk with the DASA can form a key component of violence risk management within inpatient mental health settings. An additional and equally important factor is the identification and implementation of violence prevention strategies. This includes both treatments addressing violence risk factors in a collaborative way with patients, and management strategies. Several frameworks have been developed to guide the prevention of violence within inpatient settings. Although risk assessment and management should be interlinked, this manual does not preference a particular framework or describe these aggression prevention frameworks in detail.

We acknowledge the limitations of the predictive validity of violence risk assessment instruments including DASA. Although DASA has good predictive validity, and structured risk assessment procedures are generally more accurate than unstructured risk assessment approaches, there may be occasions when a low DASA score is followed (with the next 24 hours) by an act of aggression and there may be times when a high DASA score is not followed by an act of aggression (see Maguire et al., 2017). It is important to seek to understand these events. This is elaborated on later in the manual.

Finally, it is important that DASA violence risk assessments are integrated into Aggression Prevention Protocols. Simply completing a DASA and observing a patient will not prevent violence. Identification of violence risk indicates treatment needs, and addressing these in a safe and secure environment should be prioritised. Further, our understanding of our patients should not be reduced to our assessments of their potential for violence. The seven DASA items do not reflect the totality of any patient. Each patient's strengths, vulnerabilities and tendencies should be respected and considered when planning care, treatment, and management.

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Dynamic Risk Assessment

Dynamic risk assessment is a structured process that considers the biological, psychological, social, and situational factors of a particular individual at a particular time that may increase the likelihood of violence from occurring (Douglas & Skeem, 2005). Dynamic risk factors include personal and situational factors that are amenable to manipulation and change. Some dynamic risk factors are very acute (e.g., angry mood), change rapidly over time, and are more easily manipulated, whereas others, are relatively more stable (e.g., normative beliefs supportive of violence), and although potentially changeable, are more difficult to modify (Hanson & Harris, 2001). Importantly, consideration of dynamic factors in violence risk assessment informs a clinician of an individual's internal capability or the environment's capacity to manage risk of aggression.

Douglas and Skeem (2005) suggest that for a risk factor to be considered 'dynamic' it must possess three features:

1. It must be an antecedent to, and increase the propensity for, aggression.
2. It must be able to change spontaneously or as a result of treatment efforts.
3. It must predict changes in violent recidivism as a result of intervention.

Based on these three features, the identification of dynamic risk factors presents an opportunity to establish reasonable targets for treatment interventions to ameliorate violence risk level, inform the choice of appropriate risk management strategies, and establish whether meaningful progress is being made against set treatment targets.

Dynamic risk factors in the inpatient setting

The purposes of risk assessment in the inpatient setting are, largely, to identify factors that may indicate an elevation in risk level and to enable the development and enactment of appropriately targeted intervention strategies to mitigate the risk. It is likely that while static factors are important, within the context of the inpatient hospital setting, dynamic risk factors will have a more direct impact on aggression and violence. This is probably related to the unique and complex environment of the hospital, which is likely to be considerably different to the patient's experiences in the community, e.g., substantial restrictions and demands to which patients are subjected, and placement in a unit with other individuals who are also unwell. Ultimately, individuals may be more likely to be violent in the hospital for a range of dynamic reasons, rather than due to a history of such behaviour *per se*.

Due to their fluctuating nature, dynamic risk factors are more difficult to identify through empirical research, and as such, there is a less robust empirical base from which to draw when developing risk assessment guides for inpatient settings.

Development of the DASA

Ogloff and Daffern (2006) compared unaided clinical judgements with structured judgements using items drawn from the Clinical and Risk scales of the HCR-20, Version 2 (HCR-20^{v2}), the Brøset Violence Checklist (BVC), and items derived from research on inpatient aggression previously conducted within the Thomas Embling Hospital (Daffern, Howells, & Ogloff, 2007; Daffern, Mayer, & Martin, 2003). The Thomas Embling Hospital is the secure forensic mental health hospital for the state of Victoria, Australia, operated by the Victorian Institute of Forensic Mental Health (Forensicare). The aim of the study was to ascertain whether an actuarial approach would be more effective in identifying patients at risk of imminent (within the next 24 hours) aggressive behaviour when compared with unaided clinical judgements made by forensic mental health nurses familiar with the patients.

The three acute units (two accommodating male patients and one, female patients) in the Thomas Embling Hospital participated in the study. Prior to the commencement of the risk assessment study, all units participated in a broader study examining the ways individuals use aggression to reach their goals, and staff had been trained to record incidents of aggression using an adapted version of the Overt Aggression Scale (OAS) (Silver & Yudofsky, 1987). This scale categorises aggressive behaviour into verbal aggression, physical aggression against objects, physical aggression against self, and physical aggression against other people. Within each category, aggressive behaviours are arranged hierarchically according to severity.

For the purpose of the risk assessment study, an aggressive episode was defined as the occurrence of any behaviour listed on the OAS, with the exception of items relating to physical aggression against self. Members of staff were instructed to record an incident either after it occurred or when reviewing their patients at the completion of a shift. Where several forms of aggression occurred during one incident (e.g., verbal and physical aggression), the most severe form of aggression was rated. The name of the aggressive patient, the date aggression occurred, the time of day, whether the victim of aggression was a patient or a member of staff, and the unit location were also recorded.

Over a three-month period, nursing staff on the three acute units rated the likelihood that each patient on their unit would be aggressive during the coming 24 hours. Nursing staff (usually, the designated contact nurse for the patient during a shift) would make these ratings at the three 'handover' periods (i.e., 7 a.m., 1 p.m. and 9 p.m.) each day.

Assessor Instructions

Purpose of use

The DASA is intended to facilitate the routine assessment of risk of aggression. In addition to the assessment of risk, the DASA paper scoresheet allows for acts of aggression to be recorded. The presence of a dedicated aggression-recording system may have the advantage of establishing an accurate record of inpatient aggression for each patient, which may ultimately assist in the monitoring of change over time. When specific aggression-recording instruments are used to record aggressive behaviours, significantly more aggressive incidents are recorded and a more comprehensive picture of aggression is obtained.

Minimum requirements for scoring the DASA

The DASA is intended for use on mental health inpatient units, although it has been used in prisons and there are some reports of it being used in emergency departments and community settings. It is helpful to highlight the minimum requirements for scoring the DASA to evaluate its suitability for use in other settings.

Level of observation

To be suitable for use of the DASA, a setting must allow a sufficient level of observation of the individual(s) being assessed. This means that the DASA is only suitable for residential or inpatient settings in which assessed individuals:

- spend the majority of their time in that environment (e.g., are not away on leave for lengthy periods);
- are regularly observed throughout the day by staff; and
- these same staff either score or inform the scoring of the DASA (e.g., via progress notes, written, or verbal handover).

Accordingly, suitable settings include:

- locked inpatient units with regular monitoring by staff;
- prison-based forensic mental health units; and
- unlocked inpatient units where patients spend most of their time in the unit and are regularly observed.

Likewise, the following settings are clearly unsuitable:

- community-based services such as outpatient mental health clinics; and
- residential environments in which individuals spend most of their time away, or are otherwise not regularly observed throughout the day.

Administration of the DASA

General procedure and application of use

DASA is brief; it has few items (with straightforward scoring rules) and should take less than five minutes to complete. In many units a designated 'contact nurse' (the nurse assigned to the patient on that day) would be in the best position to assess the patient, since they will likely engage with the patient more than other staff, even though another member of staff may know the person's background. An important consideration for assessors is when DASA assessments should be conducted. In the Thomas Embling Hospital, the assessments are conducted prior to a 1 p.m. handover so that the afternoon staff can be alerted to patients who are at risk of behaving aggressively and interventions can be enacted accordingly. The 1 p.m. handover was also chosen due to repeated findings that, with the exception of a 'spike' between 9 a.m. and 10 a.m., aggression tended to be more common as the afternoon progressed. Conducting the assessment at this time allows the contact nurse to determine the person's clinical status on that day. Any grade of nursing staff/clinician is permitted to complete the DASA assessment.

It may be that another time is suitable for DASA assessments. The key is that staff have had sufficient opportunity to interact with the patient to understand their current state. Since some of the DASA items relate to the patient's response to certain interactions (being told 'no' or asked to wait in response to a request they have made, or being asked to adhere to some aspect of unit routine), it is important that these interaction opportunities have occurred and the contact nurse (or another member of staff) have been able to assess the patient's response. Ratings should be made following a review of the patient's notes (for the last 24 hours) and consultation with other staff. This provides more information so that the assessment is likely more valid.

Staff may (a) call attention to a patient's DASA risk rating in handovers or (b) include the risk rating in their file entry for the shift. Where there is confusion or disagreement about the level of risk and need for intervention strategies, consultation with other members of staff may be helpful.

Reliability and validity of DASA

Since the development study (Ogloff & Daffern, 2006), DASA has been used and tested in a number of different settings worldwide. Below, we provide a summary of the available evidence concerning the inter-rater reliability, concurrent validity and predictive validity of the DASA in varying populations.

Internal consistency and inter-rater reliability

Despite the growing number of studies on the psychometric properties of the DASA, to our knowledge only one peer-reviewed article has examined the internal consistency and inter-rater reliability of DASA. Chan and Chow (2014) reported good internal reliability (Cronbach's alpha (α) coefficient of 0.86, with $\alpha \geq 0.70$ considered to be acceptable) and inter-rater reliability (Krippendorff's alpha of 0.92; with Krippendorff's alpha ≥ 0.80 considered to be reliable).

Concurrent validity

In the same sample, Chan and Chow (2014) examined concurrent validity by determining the correlation between DASA and BVC scores. Using Spearman's rho correlation coefficient (for a non-normal distribution of scores), a strong, positive correlation was identified between the two scores ($r_s = 0.96$, $p < 0.001$), indicating that the DASA captures similar risk content to that of the BVC. Further, in a sample of 70 Australian forensic inpatients, Chu, Daffern, and Ogloff (2013) found that both BVC ($r = 0.67$, $p < 0.001$) and HCR-20^{v2} Scale scores ($r = 0.73$, $p < 0.001$) were significantly correlated with DASA scores. It is worth noting that these strong correlations are unsurprising given the item overlap between these scales. Overall, though, these results suggest that decisions made from DASA assessments would not be dramatically different from decisions made relying on the other scales, given the high correlations among them.

Construct validity

Construct validity was also assessed by Chan and Chow (2014) by investigating the association between the DASA and Staff Observation Aggression Scale-Revised (SOAS-R) scores. Using Spearman's rho correlation coefficient (for a non-normal distribution of scores), a strong, positive correlation was identified between DASA and SOAS-R scores ($r_s = 0.82$, $p < 0.001$), suggesting that the DASA captures the intended construct of risk of aggression.

Implementation of the DASA

Short-term dynamic risk assessment has the potential to produce a number of positive outcomes (Vincent, Guy, & Grisso, 2012). In particular, it may:

- minimise bias in judgements made about a patient's risk of aggression and their case management needs;
- reduce costs by decreasing the use of more intensive interventions, over-use of restrictive practices and provision of interventions on patients who do not need them;
- improve the targeting of interventions to patients who require them and specifically address identified risk factors thereby preventing violence on mental health units;
- improve resource development by providing a means for objective data tracking of aggressive behaviour within an organisational setting; and
- provide a common language between agencies (e.g., Corrections departments, forensic mental health hospitals, and community settings).

Further, a number of studies have examined the impact of DASA and BVC assessments on aggressive behaviour and the use of restrictive practices. In the first randomised controlled trial of short-term risk assessment in acute mental health inpatient units, the BVC was used to assess patients during the first four days of their hospital stay (Abderhalden et al., 2008). Following implementation of the BVC, there was a significant decrease in the number of severe aggressive incidents and in the use of coercive measures, whereas little change occurred in the control units. Following on from this work, van de Sande and colleagues (2011) implemented daily BVC assessments during the entire duration of patients' hospital admissions. Results revealed significant reductions in the number of aggressive incidents, the number of patients engaging in aggressive behaviours, and the overall use of seclusion in the mental health units employing the BVC. Finally, an investigation by Needham and colleagues (2004) evaluated the effect of BVC risk assessments and aggression management training courses on the frequency and severity of violent incidents in two acute mental health units. Although results revealed no significant reduction in the overall incidence of aggressive behaviours, the reduction in use of coercive practices was highly significant.

More recently, Maguire, Daffern, Bowe, and McKenna (in press) tested the impact, through a prospective quasi-experimental study, of an Aggression Prevention Protocol linked to an electronic application of DASA. This study was conducted in a forensic inpatient setting on a unit for female patients. Results of this study showed that following introduction of the electronic application of DASA