

Province-Wide Survey of the Effects of Quality Assurance Measures on Services for Adults with
Intellectual/Developmental Disabilities and Challenging Behaviours

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Abstract

Introduction: In 2008, the Ministry of Community and Social Services in Ontario, Canada passed a developmental services act that includes the Quality Assurance Measures (QAM) for Behaviour Interventions (Part III) and the QAM Policy Directives for adults with intellectual and developmental disabilities (IDD) and challenging behaviour. No research has examined the impact of QAM on IDD services.

Methods: Online surveys addressing knowledge, practices and opinions related to QAM Part III and the Policy Directives were distributed to four general groups of Ontario IDD service personnel.

Results: Sixty-six direct-care supervisors, 76 direct-care staff, 79 behaviour consultants, and 26 supervisors in behaviour support services participated. Direct-care staff had less knowledge and a poorer opinion of QAM than the other personnel. Primary reported concerns involved inadequate training and resources to meet QAM requirements.

Conclusions: Personnel's overall evaluation of QAM is predominantly favourable. Increasing resources, clarifying requirements, and promoting consistent monitoring related to QAM may help address the identified concerns.

Keywords: Developmental disability, developmental services, Ontario, quality assurance measures, challenging behavior

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List of Abbreviations

Abbreviation	Meaning	Page
ABA	Applied behaviour analysis	12
BSP	Behaviour support plan	12
IDD	Intellectual and developmental disability	11
MCSS	Ministry of Community and Social Services	24
PBS	Positive behaviour supports	12
QAM	Quality Assurance Measures	26
SIL	Supported independent living	31

Province-Wide Survey of the Effects of Quality Assurance Measures on Services for Adults with
Developmental Disabilities and Challenging Behaviours

A clinically relevant proportion of adults with intellectual and developmental disabilities (IDD) have challenging behaviour, such as physical aggression, self-injurious behaviours and property destruction (Harris, 1993; Sigafoos, Elkins, Kerr, & Attwood, 1994; Smith, Branford, Collacott, Cooper, & McGrother, 1996). A survey of 265 adults with IDD in the U.K. found about 18% prevalence of challenging behaviour (Bowring, Totsika, Hastings, Toogood, & Griffith, 2017). In Ontario, a caregiver survey of a random sample of 948 children and adults with IDD revealed that 625, or 65%, had some form of problem behaviour, and most of these problems were only being dealt with informally (Feldman, Atkinson, Foti-Gervais, & Condillac, 2004). Without a requirement for formal, evidence-based interventions, caregivers may resort to controlling problem behavior by intrusive procedures that increase risk of injury to clients and caregivers (Feldman et al., 2004; McGill, Murphy, & Kelly-Pike, 2009; Sturmey, 2009a). Indeed, most direct-care staff in Ontario developmental service agencies reported having experienced client aggression that was directly linked to staff stress and burnout (Hensel, Lunskey, & Dewa, 2014).

The purpose of the current research was to explore the reported effects of a section of Ontario developmental service legislation on treatment of challenging behaviour on the knowledge, training, and practices of direct-care staff, behaviour consultants, behaviour service managers, and direct-care agency managers in the Ontario developmental service sector. These data were collected using online surveys tailored to each personnel group. This study also involved comparisons of reports across the personnel groups. Results were analyzed in the

context of the framework of organizational change theories and existing evidence of the impacts of similar regulations.

Background Literature Review

Developmental Service Practices

Interventions used to reduce challenging behaviours in adults with IDD include anger management training, relaxation training, cognitive-behaviour therapy, pharmacotherapy, and applied behaviour analysis (ABA)-based methods such as positive behaviour supports (PBS) and aversive strategies (Matson, Neal, & Kozlowski, 2012). Reactive behaviour management strategies that developmental service staff may often resort to may include psychotropic medications, restraint, and other intrusive strategies that may or may not be approved in the individual's behaviour support plan, or BSP (Feldman et al., 2004; McGill et al., 2009). Feldman et al. (2004) found that over half of the interventions for problem behaviour used in the sector were behavioural or based on the principles of ABA. Most of the behavioural interventions were informal (i.e., not based on a written program, professional involvement, staff training, and/or documentation of effectiveness). Further, based on informant ratings, informal interventions were significantly less effective than the formal protocols. Concerningly, about 20% of informal and formal interventions included intrusive procedures with no oversight, training, evaluation, and accountability (Feldman et al., 2004). Generally, intrusive measures such as restraints and medication are less effective (Matson et al., 2000; Taylor, 2002; Singh et al., 2015) and carry more risks (Paterson & Duxbury, 2007; Singh et al., 2015; Sturmey, 2009a) than non-intrusive procedures. Also, people with IDD who receive interventions that could be characterized as intrusive report feelings of distress associated with these procedures (Sequeira & Halstead, 2001).

Organizational Change Theories

Literature examining the general theories of organizational change provides a framework for interpreting the impacts of developmental service legislation on changing staff's and agencies' practices towards challenging behaviour in the people they support. Sandaker (2009) compared the structuralist and selectionist approaches to analyzing organizational change. Structural analysis, or traditional organizational theory, conceptualizes individuals as rational agents who act toward the agency's overall goals and, if given enough information, would make choices that contribute to optimal outcomes for the agency. The radical behaviourism-based selectionist approach specifies environmental events, rather than values and beliefs, as the set of variables governing changes in individual behaviour and global organizational change. Through the selectionist lens, the developmental service agency could be viewed as a dynamic entity whose operations are shaped by, and can be predicted based on, its external environment (e.g., legislation), the behaviour of service recipients, and the agency's internal events (e.g., interpersonal dynamics).

Support for these theories involves primarily business examples, with parallels to the developmental services sector. It is difficult to systematically manipulate global organizational contingencies such as legislation. While randomized controlled trials or multiple baseline designs across groups could be used, the existing evidence is primarily descriptive. In support of the selectionist framework, Malott (2016) describes businesses that adjusted in response to environmental events and survived as a result. For example, the pharmaceutical company, Merck, closed five of its factories and focused on a limited number of products after one of its profitable drugs was pulled off the market for its association with heart attacks (Malott, 2016). In this scenario, the collective behaviours associated with downsizing were potentially reinforced

and under the aversive control of further business losses. This counterintuitive decision allowed the company to focus on successfully approving eight new drugs, potentially helping to avert bankruptcy. If all parties in this example acted rationally toward the organizational goal, as the structuralist framework proposes, the company may have kept running the plants, continuing to manufacture the controversial yet profitable drug and putting resources into dealing with the associated consequences. The latter course of action may have been more intuitive given most companies' mission and personnel's vision of financial growth.

As with the adherents of selectionism, new structuralists also consider environmental variables such as cultural, political, and historical contexts. However, instead of focusing on individual and group behaviour and the impact of contingencies, structuralists discuss the influence of abstract phenomena such as power dynamics and value systems as factors impacting change (Lounsbury & Ventresca, 2003). For instance, Mohr and Guerra-Pearson (2010) describe how, in late 1880s, the New York City Charity Organization Society reformed other charitable organizations from giving freely to having visitors inspect each donation recipient for genuine need. The authors link this change to the group's unique knowledge and/or belief about financial aid corrupting the poor by reducing their motivation to earn an income (Mohr & Guerra-Pearson, 2010). In a similar vein, explaining de-institutionalization as the product of a general social belief that community integration is the optimal outcome for people with IDD fits with the structuralist perspective (Griffiths et al., 2016). A selectionist interpretation of these organizational phenomena would primarily implicate potential punishment contingencies, such as protests and media exposés about institutions. By depicting factors such as abuse and neglect, these publications make the funding government look like they are condoning and contributing to ongoing abuse of vulnerable people. Positive reinforcement contingencies following the

closure of direct government-operated institutions, such as budget savings and cuts to civil service roles, may also influence governments to implement deinstitutionalization policies.

Overall, when compared to the structuralist framework, the selectionist lens allows for more specific and practical explanations of organizational changes. As Sandaker (2009) and Skinner (1981) discuss, structuralist concepts such as culture and power may be the products of selection and may select further cultural phenomena. For instance, Sandaker (1997) reports the increasing cultural similarity among two collaborating Norwegian petroleum companies. In this example, ideas and beliefs were potentially shaped through interpersonal contingencies among company personnel. Further, approaching organizations from a selectionist perspective may help determine clearer mechanisms for organizational optimization, particularly in the context of the interactive milieu of post-modern organizations. Developmental service agencies have shifted from discrete, easily identifiable, and self-sustaining institutions to community services embedded in complex networks spanning various settings, service providers, and organizational structures (Schalock & Verdugo, 2012). The current study will explore whether the impact of the Ontario developmental service legislation is consistent with the structuralist framework, the selectionist framework, or both.

Effects of Intra-Agency Contingencies on Staff Performance

Consistent with a selectionist view, Malott (1993) proposed that there are two types of contingencies governing organizational behaviour: direct-acting and indirect-acting. Direct-acting contingencies occur immediately after a behaviour, such as a supervisor's response to a staff's action, while indirect-acting contingencies are too delayed to serve as effective reinforcers or punishers (Malott, 1993). Legislation enforcement procedures, such as compliance inspections and agency policies and procedures, would be examples of indirect-acting contingencies.

Although Malott (1993) argued that agency and personnel behaviour is primarily rule-governed, he also acknowledged the role of direct-acting contingencies as analogs and complements to indirect-acting contingencies. Intra-agency events such as supervisors' immediate feedback may help contribute to staff's and, ultimately, agencies' adherence to legislation. Compared to manager- and colleague-mediated contingencies, the impact of adult service recipients' behavioural outcomes on direct-care staff performance may be negligible (Arco, 2008). Therefore, the present analysis will focus on personnel-mediated consequences.

There is relatively little research examining the use of punishment or negative reinforcement in organizational behaviour management experimental literature (Lee & Oah, 2015). However, an early study of supervisors of institutions for people with IDD showed that the supervisors were more likely to prefer and use aversive control, such as loss of pay or leave time, reprimands, suspension, or termination, compared to positive consequences (Mayhew, Enyart, & Cone, 1980). A more recent survey (Parsons, Reid, & Crow, 2003) of direct-care intermediary supervisors of adult community developmental service agencies found that supervisors reported positive interactions to be most effective and negative interactions to be the least effective in motivating staff. However, only 53% of the supervisors rated themselves, as a group, as successful in optimally implementing the effective management strategies.

One advantage of using aversive consequences to manage the behaviour of direct-care staff may be the resistance to extinction of avoidance behaviours seen in non-human and human animals (Galizio, 1999; Lovibond, Mitchell, Minard, Brady, & Menzies, 2009; Sheffield & Temmer, 1950). However, aversive control may also have more emotional side effects and result in lower overall productivity than positive contingencies (Emurian, Emurian, & Brady, 1985; Lee & Oah, 2015). Additional unfavourable effects include response suppression, undesirable

modeling by the punishing agent, behavioural inflexibility, and punishment-related escape and avoidance (Balsam & Bondy, 1983; Baron, 1988). Finally, the impact of punishment may not generalize across situations (O'Donnell & Crosbie, 1998; O'Donnell, Crosbie, Williams, & Saunders, 2000).

In the applied research setting, findings on the impacts of aversive control on staff behaviour are limited and inconclusive (Reid, O'Kane, & Macurik, 2011). Arvey and Ivancevich (1980) review prior studies examining the impacts of punishment in the organizational and other settings and suggest that immediate, intense punishment administered on an intermittent schedule by an agent who has a close relationship with the recipient of the consequence is most effective. There is no post-1980 research on the effectiveness of aversive events to manage staff behaviour in developmental service settings.

A thoroughly-studied contingency that may be aversive in some applications is feedback. As the term "feedback" does not refer to a specific function, Mangiapanello and Hemmes (2015) propose the following operational definition: "presentation of an exteroceptive stimulus whose parameters vary as a function of parameters of antecedent responding" (p. 54). Across various organizational settings, feedback has been effective at improving some or all aspects of direct-care staff performance, measured directly or indirectly (Alvero, Bucklin, & Austin, 2001; Gabelica, Van den Bossche, Segers, & Gijsselaers, 2012). There is also considerable research on the impacts of managerial feedback in developmental service settings, showing at least a short-term favourable impact on staff behaviour (e.g., Roscoe, Fisher, Glover, & Volkert, 2006; Sigafos, Roberts, Couzens, & Caycho, 1992; van Vonderen, Duker, Didden, Lang, & Lancioni, 2011).

Despite the demonstrated effectiveness of feedback for establishing and maintaining staff behaviour, some evidence suggests that the frequency and quality of manager-administered feedback in developmental services may not reflect best practices. Parsons and Reid (1995) conducted a multiple probe design supervisor training study and found that nine out of ten supervisors did not meet the criterion for providing feedback to staff after receiving training in the target staff skills only. After feedback-specific training, all but one supervisor met the feedback criterion. Feedback was evaluated using a seven-step protocol that was validated through improved staff performance with the protocol-based feedback compared to a control group where the supervisors only received the staff skills training. The authors did not separately test the impact of each of the protocol steps. A more recent survey of supervision practices among ABA practitioners, including managers and direct-care staff, found that only half of the participants received feedback while undergoing their job training (DiGennaro Reed & Henley, 2015). Post-training, most participants reported receiving performance feedback once per month or less, in a primarily verbal format from their supervisor(s). Also, about 66% of supervisors did not receive any training in performance management practices. These findings suggest that even supervisors with ABA experience may not be implementing optimal feedback in developmental service settings.

Variability in feedback effectiveness across research may be the result of different functions and properties of the range of feedback properties used in each study. Feedback could involve objective descriptions of behaviour with or without praise or reprimands. There is no consensus regarding the operational functions of feedback; it may have reinforcing, punishing, establishing operation, discriminative, or rule governing effects (Mangiapanello & Hemmes, 2015). Some research attempted to determine these functions by systematically deconstructing

elements of feedback and experimentally testing their effects. Cossairt, Hall, and Hopkins (1973) separated verbal instructions, descriptive feedback, and social praise in training two teachers to deliver praise to their students in a multiple baseline design. Consistent improvements in teacher performance only occurred when the descriptive feedback was combined with praise. Notably, the researchers reported that participants found receiving feedback without praise to be aversive. Roscoe et al. (2006) examined videotape-based descriptive verbal feedback, written instructions, and contingent money in separate and combined conditions for training four instructors to conduct preference assessments. Instructors showed consistent increases in performance in the feedback-only condition and not in the contingent money or written instruction conditions. All participants met criterion when feedback was added to contingent money. Overall, these findings support that objective feedback may primarily serve a discriminative function, while praise may function as a reinforcer. These results also suggest that the impacts of feedback may differ depending on its components.

Other features of feedback that may contribute to variability in its effects, as summarized in two recent meta-analyses of the literature across all organizational settings, include its valence, format, level of administration, reinforcement histories and profiles of individual recipients and their work teams, motivation, and the role of the delivering agent (Alvero et al., 2001; Gabelica et al., 2012). Gabelica et al. (2012) found that, across reviewed research, individual-level feedback impacted task-related behaviours, team-level feedback had a direct effect on team members' interactive and collaborative behaviours, although these effects may depend on team type and other environmental and feedback features. Alvero et al. (2001) concluded that performance feedback was most effective when combined with other antecedents, including staff training, supervisor-administered prompts, or weekly assignments, but not with

self-management. Daily and weekly feedback was more effective than monthly feedback across the reviewed studies.

Developmental service feedback studies have not separated positive and critical feedback to examine the differential impacts of the two feedback valences. Several experimental studies with undifferentiated groups of non-developmental service students and professionals compared group- and individual-level positive to critical feedback and consistently found significant outcome differences between the two feedback valence conditions (Berkowitz & Levy, 1955; Johnston & Nawrocki, 1967; Mesch, Farh, & Podsakoff, 1994; Peterson & Behfar, 2003; Prussia & Kinicki, 1996). Critical feedback was associated with poorer perception of one's group and past performance, but improved post-feedback performance compared to the participants who received positive feedback (Mesch et al., 1994; Prussia & Kinicki, 1996). When trust and interpersonal conflict in groups is high, critical feedback may further worsen group interpersonal challenges by increasing task conflict (Peterson & Behfar, 2003). Subjectively, participants evaluated positive feedback as more effective than critical feedback (Berkowitz & Levy, 1955). In the current study, two distinct groups of direct-care personnel, direct-care staff and supervisors, report their frequency of use of and satisfaction with positive and critical feedback. These results provide direct and current information on the prevalence of feedback in Ontario developmental services.

Organizational research of non-aversive consequences in social service settings examined tangible consequences such as posters and snacks (Feldstein & Feldstein, 1990), monetary incentives (Cook & Dixon, 2006; Katz, Johnson, & Gelfand, 1972; Roscoe et al., 2006; Shoemaker & Reid, 1980), and symbolic rewards associated with social status (Kosfeld & Neckermann, 2011). In most of these studies, feedback was introduced along with positive

consequences in the treatment condition. As an exception, Feldstein and Feldstein (1990) reported a consistent level of critical feedback used throughout all baseline and experimental conditions for the participants. Overall, staff performance outcomes with incentives were inconsistent and did not maintain when they were withdrawn. Except for Roscoe et al. (2006), these investigations included a preference and/or a reinforcer assessment for participants. In a study of at an apparel factory, Fox, Scott, and Donohue (1993) found that contingent monetary incentives only increased work performance for the employees who rated money as their most important job outcome. Although effective when examined in contrived settings, incentives alone may also fail to sufficiently maintain performance when there is no clear contingency between a specific behaviour and the consequence and/or in the presence of stronger competing contingencies (Dixon, Hayes, & Stack, 2004). When incentives are effective as reinforcers but cannot be sustained long-term, feedback may be a practical and effective method of maintaining performance after their withdrawal (Green, Reid, Perkins, & Gardner, 1991). Along with feedback, in the current study, staff and supervisors in direct-care services report how often they receive or administer tangible rewards and their perception of the effectiveness of these incentives.

Effects of Legislation on Developmental Disability Services

Worldwide, research on the impact of legislation designed to regulate intrusive procedures and other related practices across developmental service agencies has been conducted in the U.K., Australia, United States, Norway, and the Netherlands. Most of the investigations show inconsistent change in use of intrusive procedures after the introduction of new legislation and policies. For instance, in the U.K., the 1983 Mental Health Act regulating the use of physical and mechanical restraints, originally used only in hospital settings, was extended to services for

people with IDD in 2007 (Romijn & Frederiks, 2012). Prior to the implementation of this Act, there was a framework document in place, designed by two advocacy organizations to help developmental service agencies structure their internal restraint-related policies. Before the nation-wide legislation and with the framework in place, a survey of three regions in Southeastern U.K. showed that 59% of direct-care agency staff in child and adult IDD services reported having an agency-wide restraint policy in place (Murphy, Kelly-Pike, McGill, Jones, & Byatt, 2003). In another pre-Act England survey, Sturmey (2009b) found that about 80% of participating agencies used PRN medication, followed by about 45% using physical restraint. The survey did not include questions about whether this intervention use was consistent with the BSPs of service recipients. Shortly after the developmental service amendment of the Mental Health Act, Deveau & McGill (2007, as cited in Romijn & Frederiks, 2012) reported that agencies used restraints as prescribed by the policy, while implementing frequent staff training and monitoring. However, two years after the legislation was put in place, only 54% of services for adults in the same geographical area as the 2003 survey had a restraint policy and there was a relative reduction in agency staff trained in behaviour control and restraint (Deveau & McGill, 2009). These findings suggest that the legislative policies may have had a variable, partial impact on IDD agency policies and procedures in the U.K.

Similarly, in the Australian state of Victoria, the Disability Act (2006) requires BSPs to include an outline of restrictive and positive supports along with provisions for monitoring intrusive interventions. These components parallel the areas outlined in the Ontario regulations. Phillips, Wilson, and Wilson (2010) compared BSPs that were developed before and after the Victorian Disability Act was instated. The authors found that there was a significant increase in the amount of BSPs that included measurable operational definitions of challenging behaviour,

start and review dates, and a description of the benefits of using restrictive intervention(s) for the person receiving services. However, just under a half of all reviewed BSPs still lacked assessment-based functional hypotheses and over a half did not specify a functional replacement behaviour, benefits of the restrictive intervention(s), or any indications of other stakeholders having been consulted throughout the development of the BSP. This research did not examine the impact of the post-Act BSPs on client and staff behaviour. However, the authors stated that these BSPs did not meet the standards supported by the PBS literature.

In the United States, around 1997, Deputy Secretary Curie's association of restrictive intervention use with "treatment failure" spurred the enactment of the Interim Final Rule that restricted the use of seclusion and restraint in psychiatric facilities to emergency and last-resort situations (Romijn & Frederiks, 2012; Smith et al., 2005). Smith et al. (2005) investigated the use of seclusion and mechanical restraint practices in nine psychiatric state hospitals between 1990 and 2000, capturing the state of services before and after this legislative change. The rate of restraint use in the hospitals decreased by almost a third. Moreover, after the change, the overall time an individual was held down was, on average, almost six times shorter than before.

In Norway, the rate of restraint use increased from 178 to 935, or approximately fivefold, from 2000 to 2011 despite the 1999 Norwegian Service Act intending to minimize use of restraints (Norwegian Board of Health Supervision, as cited in Søndena, Dragsten & Whittington, 2015). Søndena et al. (2015) surveyed direct-care staff and compliance inspection officers from about the reasons for this increase in restraint use and found that the main staff- and inspector-reported reasons for the increase of restraints included more knowledge about restraints, more legal awareness, and previous under-reporting of restraint cases. The authors

propose that the more experienced staff may also be more conservative and less willing to change their practices, even while considering the new legislation.

Romijn and Frederiks (2012) list the following recommendations proposed by national societies in the United States, Australia, and United Kingdom as potentially influential in reducing the use of restrictive practices: a) reflecting related regulations in the agency's core mission statement; b) data-driven practice with regular monitoring; c) using antecedent-based interventions; d) using debriefing strategies; e) fostering agency-wide ethical practice through staff professional development; f) appropriate, regular staff training; and g) involving all stakeholders in intervention planning. These recommendations are consistent with Ontario's developmental service legislation and will be more closely examined in this study.

History of the Ontario Quality Assurance Measures for Developmental Services

Until the late 1990s, institutions and sheltered workshops were the predominant services available for adults with developmental disabilities in Ontario. Prior to 1974, these institutional services were part of the medical sector. Institutions and sheltered workshops were governed by the 1839 Act to Authorise the Erection of an Asylum within this Province for the Reception of Insane and/or Lunatic People (Ministry of Community and Social Services [MCSS], 2012a) and, later, versions of the Ontario Mental Health Act passed beginning in the 1800s (Frankenburg, 1982). The 1974 Developmental Services Act signaled the transfer of institutions from the Ministry of Health to the MCSS (MCSS, 2006).

In 1978, the Ontario government developed standards for behavioural interventions in institutions for individuals with IDD (Frankenburg, 1982). An increasing social awareness of institutional abuse, as demonstrated by the Department of Health's release of the 1960 film *One on Every Street*, potentially encouraged this development. Accountability for the implementation

of these Standards was internal to each facility; no external monitoring practices were in place except for the use of faradic stimulation at one facility. With emerging behavioural research evidence supporting the use of least-restrictive approaches and the updated Canadian Charter of Rights and Freedoms and the Ontario Human Rights Code, MCSS issued a revision of the Standards in 1986. However, these guidelines continued to only apply to direct-funded large facilities and not to the increasing number of community services supporting people with IDD and challenging behaviour.

Even with the Standards in place, allegations of abuse in institutions continued. For instance, in a Toronto Star article, Donovan (2001) outlines incidents from government-sourced abuse reports for approximately half of adults receiving residentially-based developmental services in Ontario within the three years leading up to the article's publication. Abuse types discovered in these reports, accounting for about 4% of the examined adults, included physical violence, sexual assault, and exposure to hazardous conditions such as unsafe substances and extreme temperatures (Donovan, 2001). Subsequent deinstitutionalization took place within the context of a cultural shift, involving the integration of people with IDD back into the community (Griffiths et al., 2016). This shift is exemplified by the normalization movement. This movement has roots in Europe and North America and emphasizes that all people with IDD can fulfill valued social roles in the right environments and with conducive learning opportunities (Emerson, 1992). Further, in 1989, the National Institutes of Health (NIH) in the United States released a consensus statement reviewing the research on behaviour management strategies to-date. Recommendations outlined in this statement focus on considering biological, psychological, and social factors when planning interventions and only using behaviour

reduction measures in conjunction with skill-building approaches (NIH, 1989). The popularity of PBS parallels these social shifts (Johnston, Foxx, Jacobson, Green, & Mulick, 2006).

In Ontario, reports of abuse and the related legal problems, the closure of institutions with a shift to community-based supports, the changing social perception of individuals with IDD, and the community service-focused, positive intervention-based practice recommendations in other countries may have spurred the regulations for developmental service agencies. Feldman et al.'s (2004) survey, conducted and reported to the government in the late 1990s, may have also informed these regulations. The Quality Assurance Measures (QAM) and the associated Policy Directives, part of the Services and Supports to Promote the Social Inclusion of People with Developmental Disabilities Act (2008), represented the province's first attempt to formally regulate practices in the developmental services sector. The QAM regulations apply to all MCSS-funded developmental services involving individuals with IDD who are at least 18 years old.

In Ontario, residential and day support services are generally provided by not-for-profit community living associations that have an independent board overseeing the operation (MCSS, 2006). Until recently, the agencies would receive block funding to provide services to a certain number of individuals. However, the Ontario government is shifting the funding mechanism to an individualized funding model where individuals receive an annual sum based on an assessment of their needs, through programs such as Passport and the Ontario Disability Support Program (MCSS, 2006; 2012b).

Overall, the QAM provides a framework of specific rules for all Developmental Service Ontario agencies and affiliated parties to follow when working with adults with IDD. The areas that QAM covers include individual support plans, agency policies and procedures, promotion of

personal rights and freedoms of adults receiving supports, management of health and finances, addressing abuse, maintaining privacy and confidentiality, physical safety, staff qualifications and training, and record keeping.

Section III of the QAM, Behaviour Intervention Strategies, outlines the regulations for managing the challenging behaviour of adults in developmental services, including a framework for BSPs and the use of intrusive behaviour interventions. An additional document, Policy Directives for Service Agencies, identifies more specific rules for agencies to follow in the areas of receiving and documenting feedback and managing challenging behaviour. For instance, the document specifies that a BSP must be developed for an individual after three instances of clinically significant challenging behaviour, or crisis situations, occur within a year. Importantly, QAM for Behaviour Interventions makes residential and day program services responsible for the implementation of BSPs. The current study examined the impact of QAM for Behaviour Interventions and the section of Policy Directives pertaining to the management of challenging behaviour in Ontario, using an online survey.

There are two main ways in which Section III of QAM, Behaviour Interventions, and the QAM Policy Directives attempt to apply evidence-based approaches to supporting people with challenging behaviour. First, this section of QAM and the Policy Directives emphasizes biopsychosocial and functional (behavioural) assessments to guide the development of each adult's BSP. Second, the two legislative documents prescribe the use of the least intrusive model. Intrusive procedures, which include restraint, seclusion, and *pro re nata* (PRN), or as needed, medication, are only to be used when no other options are effective and must also be included in the BSP of each adult with challenging behaviour receiving services. This approach parallels the PBS framework. As an ABA-based and evidence-based strategy for working with people with

IDD, PBS involves the reinforcement of adaptive behaviour and the non-punitive reduction of challenging behaviour with the goal of promoting independence and inclusion in the community (Carr et al., 1999; Dunlap et al., 2010).

Effectiveness of the Ontario Quality Assurance Measures

Since the implementation of the QAM, there has been very little research examining its impact on the practices of developmental service agencies across Ontario. One unpublished preliminary study with 14 participants with challenging behaviour found that after the introduction of QAM-compliant BSPs and staff training, the frequency of physical restraint and PRN medication use decreased (Chartier, Makela, McGowan, Legree, & Ng, 2014). Service personnel who were generally satisfied with the new BSPs and viewed them as being consistent with their values also felt that they implemented the BSPs competently. A report from Ontario Select Committee on Developmental Services (Legislative Assembly of Ontario, 2014) meetings included comments from agency representatives stating that agencies often struggle to meet QAM requirements, that not all QAM regulations are applicable to the needs of all agencies, and that QAM may, in some cases, be creating new problems for the providers. Through consultations with 32 direct-care staff from provincial agencies, Courtney and Hickey (2016) found that increased regulatory requirements, along with understaffing and compensating for service gaps, contributed to the staff's heavy workload and detracted from the quality of person-focused supports through additional tasks such as paperwork. Our large-scale survey research may help elucidate training, service, and implementation gaps across agencies.

Significance of Study

There are several gaps in the reviewed literature. First, studies on policy and legislation conducted in other countries have focused primarily on restraint. Together, the QAM for

Behaviour Interventions and the Policy Directives regulate areas beyond restraint, including positive procedures, aspects of development and monitoring of BSPs, and additional intrusive methods. Second, there is no post-QAM research examining IDD agency practices in Ontario and, generally, no Canadian research on IDD-related legislation. Third, the differential impacts of managers' use of positive and corrective feedback on direct-care staff's behaviour have not yet been directly studied. Finally, there has not been any literature examining the structuralist and selectionist perspectives in the context of developmental service legislation.

To address these gaps in the most efficient but comprehensive manner possible, the current study used an online survey design to allow for the distribution across the entire province of Ontario. It is expected that direct-care supervisors' use of feedback focusing on staff's desirable behaviour will yield more favourable evaluations of impact from staff and supervisors than corrective feedback. Also, from a selectionist perspective, organizational change that falls in line with the QAM for Behaviour Interventions and the Policy Directives would be expected. Conversely, survey results revealing little to no change in agency practices after the implementation of this legislation would support the structuralist perspective. If personnel are rational agents who act toward the benefit of the agency and people they support given the resources, as the structuralist framework posits, developmental service personnel would be consistently implementing optimal practices regardless of legislative change. In this case, personnel would also be expected to have an unfavourable view of the QAM as an unnecessary external attempt to impose change on their orderly system.

Research Questions

Participating personnel groups were comprised of behaviour consultants and their supervisors/managers in behaviour consulting and support services, and supervisors/managers and direct-care staff in direct-care services. Because the research on developmental service personnel's opinions, experience, and knowledge related to QAM for Behaviour Interventions and Policy Directives is limited, no directional hypotheses were formulated for the current study. We sought to answer the following eight research questions for two specific areas related to challenging behaviour - QAM for Behaviour Interventions and the QAM Policy Directives:

1. What is each group's level of knowledge of these domains of QAM?
2. How does the personnel feel about QAM in general, these specific areas of QAM, and their impact on the agencies where the personnel work?
3. To what extent are each group's respective agencies fulfilling QAM mandates with respect to training, behaviour intervention practices, and agency policies for behaviour interventions?
4. What obstacles are preventing the implementation of these specific areas of QAM for each group?
5. How do the groups compare on their perception of these QAM mandates and the related areas of practice, such as BSPs?
6. How do the obstacles to the implementation of these areas of QAM reported by one group about another group (e.g., direct-care agency supervisors, behaviour consultants reporting about direct-care staff) differ from that group's self-reported obstacles?
7. What type of feedback do supervisors use with their staff and what are the self-reported impacts of positive and corrective feedback on staff behaviour?

8. How have the QAM regulations and directives impacted personnel's behaviour in the context of structuralist and selectionist perspectives? Findings that are consistent with the selectionist perspective would involve favourable opinions and service impacts of QAM. Data in line with the structuralist perspective would include negative perceptions of QAM and not making QAM-related adjustments in relevant aspects of service provision.

Methods

Participants

Developmental service agency personnel across Ontario, from behaviour consulting agencies, direct-care agencies, and in private practice participated in this study. In total, 133 behaviour consultants in behaviour support services, 12 behaviour consultants in private practice, 43 behaviour support service managers and supervisors, 150 direct-care staff, and 114 direct-care agency supervisors and managers interacted with the survey. The supervisor and manager groups will be referred to as supervisors in all further descriptions and discussions.

A survey response was considered useable for the present analysis if the participant reached the completion page for the study or if the participant consented to the use of their partial response in the study. For behaviour support and community support services, 79 behaviour consultants (59% completion rate) and 26 supervisors (60% completion rate) provided useable responses. In direct-care services, which included day, residential, supported independent living (SIL), and respite services, 76 direct-care staff (51% completion rate) and 66 supervisors (58% completion rate) finished the survey or consented to their partial response to be kept in the study. Additionally, five behaviour consultants in private practice (42%) fully completed the survey; there were no useable partial responses from this group. Because of the small sample size, behaviour consultants in private practice were excluded from the study.

Demographic data for participants in direct-care and behaviour support services are listed in Tables 1, 2 and 3, 4, respectively. Reported location was based on the Community Networks of Specialized Care (Central, South, North, and East). Supervisors and front-line staff in direct-care services also reported their specific position in adult services, which included group home, supported independent living, day, respite, and treatment program roles. Seventy-three percent of direct-care agency supervisors reported only having one position, 19% had two roles, 6% had three, and 2% reported holding all five roles. For direct-care staff, 83% had one role and 13% had two, while 3, 4, and 5 roles were reported by 2% of direct-care staff each.

Non-parametric comparisons for demographic variables were conducted for included and excluded participants. Nominal demographic variables, which included professional certification, geographical area, receipt of QAM training, and position in developmental services, were compared using chi-square tests. Ordinal demographic variables, which included work experience in the three developmental service areas and level of education, were analyzed using exact Mann-Whitney *U* tests. There were no significant demographic differences between the included and excluded participants ($p > .05$, two-tailed).

Table 1

Direct-Care Personnel Receipt of QAM Training, Highest Education, Professional Certification, and Geographical Area Data

Survey Item	Direct-Care	
	Staff (<i>n</i> = 76)	Supervisors (<i>n</i> = 66)
QAM Training Received?	88%: Yes 12%: No (<i>n</i> = 58)	96%: Yes 4%: No (<i>n</i> = 47)
Highest Education	53%: College diploma 19%: 4-year Bachelor's degree 8%: Master's degree 7%: Some undergraduate 5%: Other (e.g., job coach) 3%: Post-graduate college certificate, 3-year Bachelor's degree, High school diploma	46%: College diploma 24%: 4-year Bachelor's degree 7%: 3-year Bachelor's degree 6%: Some undergraduate college or university, Master's degree, other 2%: High school diploma, post-graduate college certificate, PhD
Professional Certification	53%: Other (e.g., DSW, PSW) 31%: None 14%: Social worker 1%: Nurse (<i>n</i> = 71)	45%: None 33%: Other (e.g., DSW) 11%: Social worker 5%: Certified teacher, 3%: Nurse 2%: Registered Behaviour Technician (RBT), Board Certified Behaviour Analyst – Doctorate (BCBA-D) (<i>n</i> = 64)
Geographical Area	37%: South 19%: North 13%: Central East 12%: I do not know 9%: Central West 7%: Toronto 3%: East (<i>n</i> = 75)	30%: South 23%: North 15%: Toronto 14%: Central East 11%: East 6%: Central West 2%: I do not know

An additional sample size (*n*) is reported for items not answered by the entire sample.

Table 2

Direct Care Personnel Developmental Service Work Experience Data

Survey Item	Staff (<i>n</i> = 76)	Direct-Care	Supervisors (<i>n</i> = 66)
Work Experience in Developmental Services	66%: 10+ years 9%: 3 years 5%: 8, 6 years 4%: 5 years 3%: 9, 7, 4 years 1%: 2, less than 1 years		97%: 10+ years 2%: 6, 8 years
Work Experience with Adults with IDD	58%: 10+ years 9%: 2 years 8%: 3 years 5%: 5 years 4%: 8, 7, 6, 4 years 3%: 9 years 1%: Less than 1 year		92%: 10+ years 5%: 8 years 2%: 3, 5 years
Work Experience with Adults with IDD + Challenging Behaviour	54%: 10+ years 12%: 2 years 7%: 3 years 5%: 5, 8 years 4%: 7 years 3%: 4, 6, 9, less than 1 years 1%: 1 year (<i>n</i> = 74)		91%: 10+ years 3%: 3, 5, 8 years

An additional sample size (*n*) is reported for items not answered by the entire sample.

Table 3

Behaviour Support Service Personnel’s Receipt of QAM Training, Highest Education, Professional Certification, and Geographical Area Data

Survey Item	Behaviour Support Service	
	Behaviour Consultants (<i>n</i> = 79)	Supervisors (<i>n</i> = 26)
QAM Training Received?	84%: Yes 16%: No (<i>n</i> = 49)	79%: Yes 21%: No (<i>n</i> = 19)
Highest Education	4%: Other (e.g., job coach) 40%: Master’s degree 23%: 4-year Bachelor’s degree 16%: 3-year Bachelor’s degree 13%: College diploma 1%: Some undergraduate college or university education	27%: Master’s degree 23%: 4-year Bachelor’s degree 15%: College diploma 12%: Some undergraduate college of university education 8%: Post-graduate college certificate, PhD or Doctoral degree 4%: 3-year Bachelor’s degree, Other
Professional Certification	47%: None 25%: BCBA-D 11%: Other (e.g., clinical case manager, developmental service worker) 4%: RBT 3%: BCaBA, College of Registered Psychotherapists (CRPO)-certified psychotherapist, Social Worker 1%: Psychologist, Teacher (<i>n</i> = 75)	40%: None 16%: BCBA or BCBA-D, Other (e.g., DSW) 12%: Social Worker 8%: Psychologist or Psychological Associate 4%: College of Registered Psychotherapists (CRPO)-certified psychotherapist, Certified Teacher (<i>n</i> = 25)
Geographical Area	21%: South 28%: North 19%: Toronto 15%: Central East 13%: East 5%: I do not know 4%: Central West	46%: North 19%: South 15%: East 8%: Central East, Toronto

An additional sample size (*n*) is reported for items not answered by the entire sample.

Table 4

Direct Care Personnel Developmental Service Work Experience Data

Survey Item	Behaviour Support Service	
	Behaviour Consultants (<i>n</i> = 79)	Supervisors (<i>n</i> = 26)
Work Experience in Developmental Services	58%: 10+ years 9%: 5 years 6%: 7 years 5%: 4, 8 years 4%: 6, 3, 2 years 3%: 9 years 1%: 1, less than 1 years	85%: 10+ years 8%: 9 years 4%: 8, 7 years
Work Experience with Adults with IDD	58%: 10+ years 13%: 3 years 11%: 2 years 9%: 4 years 8%: 5 years 4%: 8, 1, less than 1 years 2%: 7, 6 years 1%: 9 years	77%: 10+ years 8%: less than 1 year 4%: 9, 8, 7, 5 years
Work Experience with Adults with IDD + Challenging Behaviour	40%: 10+ years 14%: 2 years 13%: 3 years 9%: 5 years 8%: 4 years 4%: 8, 7, 1, less than 1 years 1%: 9, 6 years	77%: 10+ years 8%: 7 years 4%: 9, 8, 5, less than 1 years

An additional sample size (*n*) is reported for items not answered by the entire sample.

Survey Instruments

Most of the reviewed research on policy impact in other countries used survey methodology. Deveau and McGill (2009), Murphy et al. (2003) and Søndena et al. (2015) used mailed surveys, while Rotholz et al. (2013) used an online survey. Studies using mailed surveys focused on a relatively limited geographical region and consisted of relatively few items. The

Rotholz et al. (2013) survey, however, encompassed agencies in 44 U.S. states, with its online nature potentially allowing for a wider reach.

In the current study, the researchers developed five distinct but overlapping online surveys for each of the five target participant groups. Final surveys were hosted in a platform called Qualtrics. The initial portion of the survey was comprised of demographic questions. These questions addressed the participants' highest completed level of education, professional certifications, and the general location of their agency. Another block of questions in this section pertained to participants' experience working in the general developmental service sector, working with adults, and working specifically with adults who exhibit challenging behaviours.

Questions relating to QAM for Behaviour Interventions and the Policy Directives encompassed three areas: relevant knowledge, implementation and opinions. Most of the questions were closed-ended (e.g., Likert scale, multiple-choice). A few questions included an "Other" option and/or required an open-ended response. Different types of questions were interspersed, such as a knowledge question followed by an opinion question and then by an implementation question. Also, questions on each page of the survey were put together as well as possible based on their common topic. For example, a knowledge question about QAM specifications for intrusive interventions would immediately precede or follow a question asking the participant to self-report the frequency of using positive and intrusive interventions and to evaluate their impact.

Knowledge and demographic questions were identical across all surveys. For other question categories, items differed to various extents across survey versions. For the sections pertaining to the impact of QAM on services and opinions about QAM, question phrasing or options were changed slightly across survey versions based on the unique experiences of each

group of personnel. For instance, all versions had questions about obstacles to implementing the regulations specified in QAM for Behaviour Interventions and the Policy Directives. However, while direct-care staff were asked whether they have encountered obstacles to implementing BSPs, behaviour consultants' version had a question about whether they experienced direct-care staff having these obstacles.

Knowledge questions covered QAM content-based topics such as the applicability of QAM to different services, QAM-based definitions of intervention and behaviour types, and QAM-based specifications for appropriate and inappropriate procedures. Questions about the perceptions of QAM and its impact were related to general opinions of QAM, QAM-specific concerns, and QAM-influenced areas of service such as BSPs, training, assessment, and QAM compliance inspections. Personnel also rated the extent of their agency's fulfillment of QAM mandates such as policies and procedures, BSP-related service facets, and crisis management training.

Questions about the incorporation of QAM for Behaviour Interventions and Policy Directives into agency's policies and procedures, the impacts of QAM on BSPs, and the type and method of QAM-related staff training were included in all survey versions. Opinion questions about the QAM itself, its impact on services, and the fit between QAM and agency practices were also common across all surveys. A question pertaining to the opinion about the QAM-impacted BSP was found in all survey versions except for direct-care agency supervisors', as they may not be familiar with individual BSPs within the agency. Only the two direct-care personnel groups' surveys had questions about whether all adults who have challenging behaviour and who receive services at the agency have a BSP, the internal procedures in place to monitor QAM-related staff performance, and the use of external consultants. These two survey

versions also included questions about the credentials of the professional(s) who approved the agency's BSPs, if any. Questions about management contingencies and their perceived effectiveness were also included only for these two groups. Only the surveys for behaviour consultants and direct-care staff had questions about their satisfaction with debriefing, as these two groups would be directly involved in the process. Finally, several questions about the experience of participating in a twice-yearly QAM compliance inspection were included in all survey versions except for behaviour consultants', who are usually not involved in this process.

The survey for behaviour consultants in private practice was adapted from the survey for the larger target group of behaviour consultants in behaviour support services. Some questions were re-phrased and several questions were removed as applicable, to reflect the nature of private practice.

Survey lengths and completion times varied depending on the version. On average, the survey took participants from 24.21 min (for behaviour consultants in private practice) to 33.48 min (for direct-care supervisors) to complete. For behaviour consultants, the behaviour support agency group survey version was 53 questions long, and the private practice version was comprised of 51 questions. Behaviour support service supervisors' survey consisted of 48 questions. The direct-care staff survey was 61 questions long and direct-care agency supervisors' version was 68 questions long. These lengths included questions that could be skipped when the respondent answered "No" to a more general question. Two initial questions, verifying the participant's personnel group and a Yes/No question about receiving QAM training, were not included in this count. The latter question was added to surveys at least two months after the surveys were launched upon request from a local agency's Research Ethics Board. As only a portion of participants responded to this question, it was not considered as part of the original

survey.

The first page of each survey contained a letter of introduction outlining the details of the research. Information presented in this letter included the purpose of the research, a description of the planned dissemination of findings, the anonymity and confidentiality of the responses, and the conditions constituting withdrawal of consent. After reading this letter, respondents provided electronic consent by selecting whether they agreed or did not agree to participate. A stand-alone screener question verifying that the participant was taking the correct survey (e.g., “Are you a behaviour consultant in private practice?”) followed the consent page and preceded the demographic portion of the survey.

If a participant began completing the survey and closed the browser window, the entered data would be erased from browser history. This configuration ensured that, if multiple personnel participated in the survey on the same computer at work within temporal proximity and one participant did not finish the survey before the other participant began, there is less chance that the latter participant would see the previous participant’s responses. To allow for later completion of the survey, participants could enter their email address to receive a unique link, where they could re-start with their partial response saved. After sending the link, the researcher deleted the email address from that participant’s response in the Qualtrics system, own email server, and other databases. Additionally, each page containing survey questions also had a “Withdraw” button at the bottom of the page. For the participants who decided to stop the survey prior to completing it, pressing the “Withdraw” button would redirect to a question prompting the participant to indicate “Yes” or “No” to keeping the partial response in the study. This option allowed for some partial data to be included in the analysis.

Another feature of the survey was to restrict participants from navigating back to prior

pages in the survey. This restriction ensured that participants did not use previous questions as clues for correct responses on the knowledge questions. Survey questions were also developed and arranged to prevent this possibility from occurring.

Specific strategies to counteract potential online survey biases were incorporated into the surveys. One form of bias, called satisficing, involves participants endorsing an initial option in a multiple-choice or Likert-scale question, even if that option is not the most accurate, as part of reduced response effort (Tourangeau, Rips, & Rasinski, 2000, p. 250). To counteract the presence of this response pattern, the scales for some questions that addressed a common construct were reverse-ordered, as suggested by Krosnick and Alwin (1987). Most questions listed the least favourable option (e.g., Strongly Disagree) first, but some initially included the more favourable option (e.g., Strongly Agree).

Also, participants may provide untruthful or socially desirable answers on self-report measures, although this bias may be a more significant concern for direct interviews (Klandermans & Smith, 2002). For instance, in Mayhew et al.'s (1980) survey of developmental service agency supervisors, the personnel self-reported that they most frequently administered negative consequences but did not rate them very favourably. Conducting clearly anonymous surveys, minimizing any potential indicators of participant identification, and avoiding sensitive questions may help prevent misreporting in self-report surveys (Tourangeau et al., 2000, p. 279). Based on this evidence, the anonymous surveys designed for the current study incorporated a variety of questions requiring the participants to self-report aspects of their own behaviour.

Procedures

Consultation Phase. To prepare the surveys, the researchers first conducted phone consultations with a convenience sample of representatives from the four main target groups of

developmental service and behaviour consulting agency staff (excluding behaviour consultants in private practice). Each consultation was divided into three parts: 1) a brief interview about the respondents' QAM-related experience, 2) obtaining feedback on the general outline of the survey and 3) the completion of a survey draft with sample questions. A template of the questions asked during the brief QAM experience interview is in Appendix A and a sample survey outline for feedback is included in Appendix B. These materials were compiled in an online shared document (Google Docs) that could be shared and collaborated on in real time, with a unique document version for each consultee. Survey drafts were hosted in a different online survey platform, SurveyMonkey, and included an open-ended Comments field for each closed-ended question. These survey versions are available from the authors by request. Eight behaviour consultants, two behaviour support service supervisors, and one direct-care staff provided consultative input into the design of this study.

The consultation process took place as follows. A phone call was arranged with each consultee. Approximately a day before the consultation, each consultee received their own online document link (for the first two parts) and a link to the draft survey relevant to the consultee's primary role (for the third part) at least 24 hours prior to the call. During the call, the researcher asked the questions and made notes on the responses in the online document, which the consultees could see and edit in real time. During the third part, the consultee completed the draft survey while providing ongoing verbal feedback and written comments throughout the process. If the consultee completed the survey prior to the phone call, they were still asked to review and discuss the survey during the consultation.

Based on the consultation, questions were refined in the following general ways. For some questions including lists, additional items were included (e.g., revision criteria, fading

procedures for BSP components). New questions were also added based on topics that the consultees reported to be important and relevant to the topics of this survey (e.g., a question about the aspects of BSPs that direct-care staff find most helpful for implementation). Other questions that were unclear or ambiguous were removed. Consultees also helped to pinpoint the structural aspects of questions, such as not allowing the participant to select multiple responses in specific questions, unsuitable Likert scale items, or not having “None of the above” or “Do not know” options for questions where these responses were probable. Finally, consultees provided favourable feedback for the interspersed question type format. Post-consultation, the surveys were migrated to the Qualtrics platform to allow for the partial data inclusion consent feature, which was not available in SurveyMonkey.

Recruitment Phase. Materials used to promote the survey included a website, a flyer (Appendix C), a letter of request customized to address each agency representative (template in Appendix D), and the individual letter of invitation (Appendix E). Permission to use the photo in the flyer for recruitment purposes was obtained from the source.

Surveys were distributed across Ontario MCSS-funded developmental service agencies in three ways. When possible, the investigators obtained the email addresses of the agency representative(s) and sent the letter of request to them directly to inform them about the survey. The letter of request asked the representative to distribute the letter of invitation and/or the flyer to the target personnel within their agency. Alternatively, the investigators contacted representatives from various networks and community support coordinating agencies with a request to send the recruitment materials to their contacts. A sample email script used for this purpose is included in Appendix F. Some community partners posted a brief statement about the study (for an example, see Appendix G) on social media such as LinkedIn or Facebook. Also, all

participants were asked to send the survey to anyone in their network who may be eligible to participate. About four months after making the surveys available, the investigators sent a follow-up letter (Appendix H) to the agencies they contacted directly. While paper versions of the surveys were available for personnel without Internet access, none of the recruited parties expressed interest in this option.

An incentive for participating in the survey was made available in the form of online training on QAM for Behaviour Interventions and the Policy Directives. Each person who showed interest in the survey by not agreeing to participate, partially completing the survey, or fully completing the survey had the option of signing up on a mailing list to receive updates about the training. Mailing list sign-up was conducted through a page on the study website that was external to the survey and the Qualtrics platform, to ensure that survey responses remained confidential. When a participant entered an email address into the form on the webpage, it was sent to the Principal Student Investigator's institutional email address. Each email address was transferred into an encrypted spreadsheet and deleted from the email server.

This training module was developed and conducted by the Principal Investigator of this study. The training consisted of a free webinar session, accessible using a secure link. Initially, the webinar was broadcasted live. It was then archived for viewing at the participant's convenience. For any participants who preferred to access the webinar offline or who did not have Internet access, a paper copy of the webinar slideshow was mailed out to them.

Analyses. Only the subset of the data collected from the surveys that directly pertained to the proposed research questions was included in the analyses. All quantitative analyses were conducted using the IBM Statistical Package for Social Sciences (SPSS), versions 24 and 25. Missing data were excluded by the data point (pairwise), rather than by cases with any missing

values (listwise) throughout the current analyses to allow for the incorporation of as much data as possible. For all comparative tests, the significance level was set at $p = .05$.

Knowledge was calculated as a percentage out of seven knowledge questions that were shared across all survey versions. Responses were coded as correct (1 point) or incorrect (0 points). All seven questions were weighted equally. Participant non-responding because of not knowing the answer could not be differentiated from non-responding for other reasons. Therefore, missing responses to the knowledge questions were included in the percentage calculations and comparative analyses.

Data from questions with multiple items rated on a Likert scale (e.g., QAM concerns, crisis training ratings) were ranked based on weighted response percentages. In this case, the percentage of responses for each Likert item was calculated out of the total number of participants who rated each item listed in the question. Responses to items with longer multiple-choice lists than Yes or No questions, such as obstacles to BSP implementation, were ranked based on the percentage of respondents endorsing each option out of the entire sample size. For single Likert-scale or multiple choice questions, presenting percentages of missing and “Other”-type responses and using them in percentage calculations yielded relevant information about the response patterns of the personnel. Missing data were not useful specifically for the rankings or displaying the results of the item rating questions. For open-ended responses, the qualitative analysis software NVivo 12 was used to help extract common themes.

Where there was a sufficient sample size to achieve a power of .8 or higher, a minimum criterion recommended by Cohen (1969), comparisons across groups were also performed. Post-hoc power calculations were conducted using G*Power (Erdfelder, Faul, & Buchner, 1996), version 3.1. A two-tailed, normal distribution with a medium effect size, $d = 0.50$, and $\alpha = 0.05$

was assumed. Because the power of non-normally distributed data with these parameters may be even lower, the power criterion was applied strictly. Comparisons that met the power criterion were direct-care supervisors ($n = 66$) versus direct-care staff ($n = 76$, $1-\beta = 0.82$), direct-care supervisors ($n = 66$) versus behaviour consultants ($n = 79$, $1-\beta = 0.83$), and direct-care staff ($n = 76$) versus behaviour consultants ($n = 79$, $1-\beta = 0.86$). An comparison of combined direct-care ($n = 142$) and combined behaviour support service ($n = 105$) personnel also met the minimum power criterion, $1-\beta = 0.96$. The comparisons that had insufficient power involved the behaviour support service supervisors ($n = 26$) versus behaviour consultants ($1-\beta = 0.57$), direct-care staff ($1-\beta = 0.57$), or direct-care supervisors ($1-\beta = 0.55$). Based on these findings for the likelihood of rejecting the null hypothesis in the presence of an effect, whenever behaviour support service supervisors could not be combined with behaviour consultants, they were excluded from comparative analyses.

Parametric assumptions were tested for all relevant experimental variables. Based on Kolmogorov-Smirnov tests, knowledge scores, in percentage form, significantly deviated from normality for direct-care personnel: staff, $D(76) = 0.164$, $p < .001$ and supervisors, $D(66) = 0.167$, $p < .001$. For behaviour support service personnel, the scores were also not normally distributed, with $D(79) = 0.189$, $p < .001$ for behaviour consultants and $D(26) = 0.212$, $p < .004$ for supervisors. Applying the square root, logarithmic, reciprocal, or reverse score transformations to the scores failed to make the scores normally distributed. Therefore, the four groups' knowledge score percentages were compared using the non-parametric Kruskal-Wallis H test and follow-up pairwise comparisons. Likert-scale survey item comparisons across groups were also conducted using non-parametric tests (Kruskal-Wallis H , Mann-Whitney U , Pearson chi-square). Unless otherwise specified, exact p -values for the non-parametric tests were

reported because even the larger sample sizes in the current study may still be relatively small (Ornstein, 2013) and exact significance estimates are more robust for small samples (Mehta & Patel, 1996).

As Siegel and Castellan (1988) state, means and standard deviations used by parametric tests are meaningless for data that do not have a continuous dimension. Therefore, non-parametric tests are most appropriate for ordinal Likert-scale data commonly gathered from surveys, but also have less power because of fewer assumed specifications (Siegel & Castellan, 1988). All tests for multiple-choice or Likert-scale questions were conducted using data that excluded all “Not applicable”, “Do not know”, or “Other” responses. These data were non-scalable and were declared user-missing in SPSS.

Results

Knowledge of QAM for Behaviour Interventions and Policy Directives

In this analysis, the percentage scores were treated similarly to other test scores, on an interval scale, with all questions weighted equally. Therefore, means and standard deviations were used to represent the scores. For staff and supervisors in direct-care services, the descriptive statistics for the proportion of correct knowledge scores were $M = 51\%$ ($SD = 23\%$) and $M = 71\%$ ($SD = 19\%$), respectively. The correct response statistics for behaviour consultants and supervisors in behaviour support services were $M = 80\%$ ($SD = 17\%$) and $M = 72\%$ ($SD = 23\%$), respectively.

A Kruskal-Wallis H test for direct-care staff, direct-care supervisors, and behaviour consultants showed a significant difference in relevant QAM knowledge across the three groups of personnel, $H(2) = 63.55$, $p < .001$. Behaviour support supervisors were not included in the comparison because of the small sample size of this group compromising the power of the

analysis. Based on post-hoc pairwise comparisons with adjusted p -values, direct-care staff had significantly lower knowledge scores than direct-care supervisors ($p < .001$, $r = -0.42$) and behavior consultants ($p < .001$, $r = -0.63$). Direct-care supervisors also scored significantly lower than behaviour consultants, $p = .035$, $r = -0.26$.

Component Analysis of QAM Impact Variables

Ten questions about the impact of QAM for Behaviour Interventions and Policy Directive, which included nine opinion question and one question about the agency's QAM fulfillment, were analyzed using principal component analysis with oblique rotation. The purpose of this analysis was to determine the factor structure of as much of the survey as possible and to allow for aggregate comparative analyses. These ten questions represent the largest number of stand-alone Likert-scale items shared across the majority of survey versions. Only behaviour consultants, behaviour support service supervisors, and direct-care supervisors were included in the component analysis to maximize the number of items and to find as many factors as possible. Appendix I contains a detailed summary of the three groups' responses to the ten questions. Data from the direct-care staff survey were not included in the component analysis as this version only contained four of the ten variables. Appendix J includes direct-care personnel's response summaries for the four items.

The principal component analysis was conducted using polychoric correlations, which are most appropriate for ordinal variables (Choi, Peters, & Mueller, 2010) and are robust with non-extremely skewed distributions (Flora & Curran, 2004; Quiroga, 1992). According to the Kaiser-Meyer-Olkin (KMO) measure, the sampling was adequate for the analysis, $KMO = .84$. Individual variables' KMO values ranged from .71 to .89, well above the minimum acceptable

criterion of .5 proposed by Hutcheson and Sofroniou (1999). Two of the obtained eigenvalues fell above Kaiser's (1960) criterion of 1, together explaining 60% of the variance.

As shown in the pattern matrix in Appendix K, seven variables clustered on Component 1 (Service Impact) and three items clustered on Component 2 (BSP impact), validating the survey structure. Service Impact reflects participants' perception of the direct, global effect of QAM on their agency's practices. BSP Impact reflects participants' opinion about the practicality and usefulness of QAM-impacted BSPs in providing services to adults with IDD. Item scores within each component were added and used for further cross-group comparisons, where applicable. In adding the responses, missing values were coded as zero to avoid fully omitting participants who skipped some questions from the analyses. Overall, 16% of the 171 participants included in the component analysis had at least one missing response. Non-scalable items, such as "I am not familiar with QAM" and "I do not have any pre-QAM knowledge of my agency's services", were also coded as zero to allow for inclusion in the response sums.

Component-based response sums were compared for behaviour consultants and direct-care service supervisors using the Mann-Whitney U test. The BSP Impact component score total for supervisors in behaviour support services ranked significantly lower (rank sum = 934.00) than behaviour consultants' score total (rank sum = 4631.00, $U = 583.00$, $z = -3.34$, $p = .001$, $r = -0.33$). However, the small sample size of behaviour support service supervisors makes this finding preliminary.

Perceptions of QAM Impact

General opinion of QAM. General QAM opinion ratings are graphically displayed in Figure 1 and summarized in Appendix L. A non-parametric Kruskal-Wallis test for direct-care service supervisors, direct-care staff, and behaviour consultants showed a significant difference

among the groups, asymptotic $H(2) = 11.41$, $p = .003$. Pairwise comparisons with adjusted p -values showed that direct-care staff had a significantly poorer general opinion of QAM than direct-care supervisors ($p = .004$, $r = -0.27$) and behaviour consultants ($p = .034$, $r = -0.20$).

Concerns with QAM. A summary of QAM-related concern ratings, ranked from most to least concerning based on weighted percentages, is included in Table 5. To obtain weighted percentages, the raw response percentages were multiplied by the following figures: 0.25 for Slightly Concerning, 0.5 for Moderately Concerning, and 0.75 for Very Concerning. Tables and calculations are provided in Appendix M. Highest-ranked concerns across all personnel groups were having inadequate QAM-related funding and a mismatch between QAM expectations and available resources. For all groups, the lowest-ranked concern was having resources available for meeting QAM requirements but not using them. The concern about QAM-based BSPs being hard to follow was lowest-ranked among all groups except for direct-care supervisors.

In an exploratory, follow-up Spearman *rho* correlation, there was no relationship between direct-care staff's amount of experience across any relevant service level (IDD, adults, challenging behaviour) and the strength of their concern about problems following BSPs.

In open-ended responses to the Concerns question, direct-care and behaviour support personnel most commonly referred to inadequate QAM knowledge, volume of QAM-related workload detracting from providing supports, and inconsistency of QAM requirements. Behaviour support personnel uniquely expressed concerns about the lack of a link between QAM and service outcomes, community partners and other professionals not following QAM, lack of cross-communication among service sectors (e.g., IDD and medical), lack of detail in QAM, and poor oversight or monitoring.

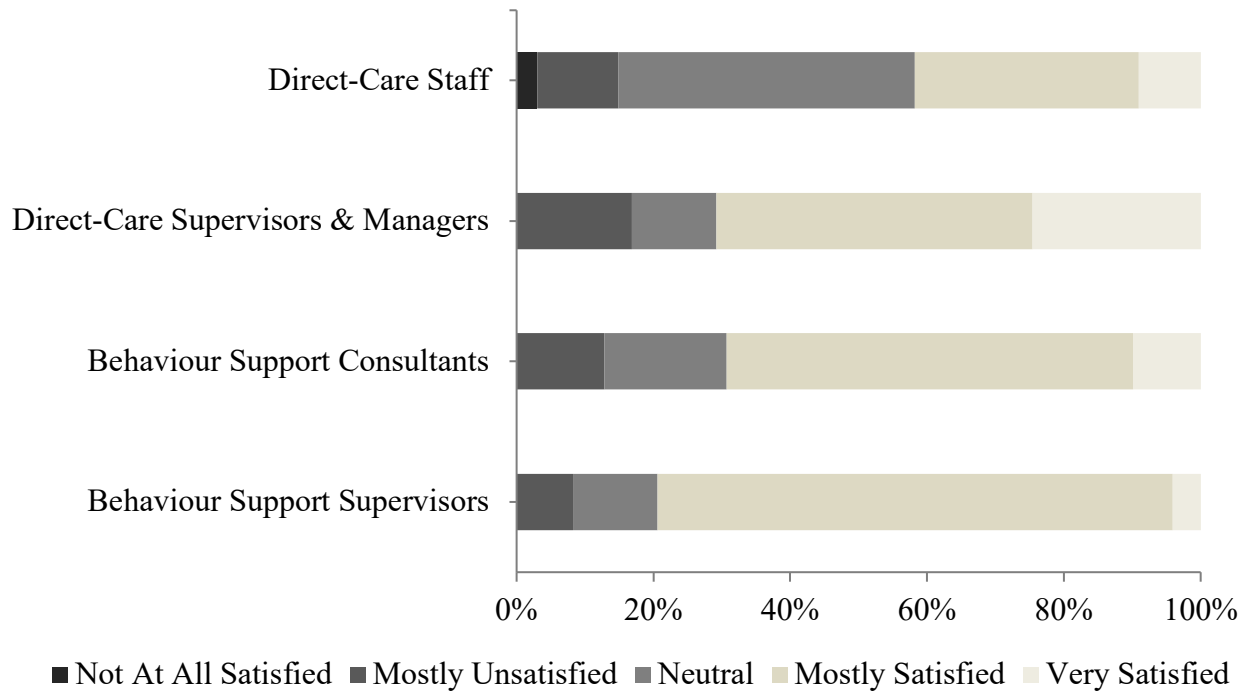


Figure 1. Personnel satisfaction level with the QAM overall, based on the question “What is your general opinion about QAM?”.

Table 5

Ranked Concerns across Personnel Groups Based on Weighted Percentage Sums

Rank	<u>Direct-Care</u>		<u>Behaviour Support Services</u>	
	Supervisors	Staff	Supervisors	Behaviour Consultants
1	Not enough funding ($N = 59$) QAM-based BSPs hard to follow ($n = 58$) (tied rank)	Mismatch between QAM expectations & available resources ($n = 51$)	Not enough funding ($n = 22$)	Mismatch between QAM expectations & available resources ($n = 65$)
2		Not enough funding ($n = 51$)	Mismatch between QAM expectations & available resources ($n = 22$)	Not enough QAM training ($n = 63$)
3	Mismatch between QAM expectations & available resources ($n = 60$)	Not enough QAM training ($n = 53$)	Not enough QAM training ($n = 18$)	Resources available but not used enough ($n = 58$)
4	Not enough QAM training ($n = 59$)	Resources available but not used enough ($n = 49$)	QAM-based BSPs hard to follow ($n = 20$)	Not enough funding ($n = 57$)
5	Resources available but not used enough ($n = 48$)	QAM-based BSPs hard to follow ($n = 48$)	Resources available but not used enough ($n = 17$)	QAM-based BSPs hard to follow ($n = 55$)

Behaviour support plan impact. For the role of the BSP in the management of challenging behaviour of supported people, 13% of the staff rated the BSP as minimally important and 77% as mostly or very important. Reflecting on the effectiveness of the BSP for managing the challenging behaviour of the people they support, 24% of the staff were mostly or very unsatisfied and 60% were mostly or very satisfied with BSP impact.

Behaviour support plan content. Behaviour support personnel and direct-care staff evaluated all applicable content areas included in the QAM-impacted BSPs they encountered in their practice. A comparison of combined behaviour support personnel to direct-care staff showed a significant difference in ratings of the biopsychosocial assessment and functional behaviour assessment summaries, definitions of target behaviours to decrease and replacement skills to increase, goals, and objectives. The two groups also significantly differed in their ratings of the three listed behaviour support strategies: prevention/antecedent, skill building/reinforcement, and behaviour management. Behaviour support personnel rated most of the listed components more favourably than direct-care staff, except for objectives, skill building/reinforcement, and behavior management, which the staff rated higher overall. Effect sizes were small to medium based on Cohen's (1969) criteria. Statistics and all significant Mann-Whitney U test results are included in Table 6.

Behaviour consultants and direct-care staff also reported their satisfaction with the debriefing process. Per QAM-based BSPs, after administering restraint or seclusion, staff are required to debrief the recipient of the intrusive intervention (as well as witnesses) within certain parameters. Forty percent of staff and 24% behaviour consultants were unsatisfied and 44% of staff and 70% of consultants were satisfied with the debriefing process. Direct-care staff (rank sum = 3395.00) were significantly less satisfied with debriefing than the behaviour consultants (rank sum = 6058.00), $U = 1379.00$, $z = -4.327$, $p < .001$, $r = -0.36$.

Table 6

Mann-Whitney U Comparisons Between Behaviour Support Personnel and Direct-Care Staff for BSP Domain Ratings

	Behaviour Support Service Personnel	Direct-Care Staff
Biopsychosocial Assessment	Rank sum = 7641.50	Rank sum = 1949.50
Summary	$U = 1169.50, z = -4.29, p < .001, r = -0.36$	
Functional [Behaviour] Assessment Summary	Rank sum = 9550.00	Rank sum = 3011.00
	$U = 1526.00, z = -6.059, p < .001, r = -0.48$	
Definitions of Target Behaviours to Decrease	Rank sum = 8526.00	Rank sum = 3720.00
	$U = 2342.00, z = -2.254, p = .025, r = -0.18$	
Definitions of Replacement Skills to Increase	Rank sum = 8886.50	Rank sum = 2894.50
	$U = 1619.50, z = -4.56, p < .001, r = -0.37$	
Goals	Rank sum = 8285.50	Rank sum = 3649.50
	$U = 2218.50, z = -1.97, p = .049, r = -0.16$	
Objectives	Rank sum = 3317.50	Rank sum = 8007.50
	$U = 2042.50, z = -2.15, p = .032, r = -0.18$	
Behaviour Support Strategies: Prevention/Antecedent	Rank sum = 9108.00	Rank sum = 3772.00
	$U = 2176.00, z = -3.83, p < .001, r = -0.30$	
Behaviour Support Strategies: Skill Building/Reinforcement	Rank sum = 3437.00	Rank sum = 8498.00
	$U = 2111.00, z = -2.81, p = .005, r = -0.22$	
Behaviour Support Strategies: Behaviour Management	Rank sum = 3707.50	Rank sum = 8538.50
	$U = 2276.50, z = -2.29, p = .022, r = -0.18$	

Note. These figures do not include option 5 (“Not part of the BSPs I have experience with”)

Behaviour support plan training. Out of the 42 direct-care staff who evaluated their confidence with implementing BSPs after their BSP training, 12% were not confident and 89% were mostly or very confident. Direct-care supervisors also evaluated the quality of direct-care staff's BSP training since QAM. Out of the 61 supervisors whose agency had BSP training and who were familiar with the pre-QAM training, only 3% rated the training as slightly or much worse since QAM, 23% did not notice any change, and 74% rated it as slightly or much better.

Behaviour support plan monitoring. A summary of behaviour consultants', behaviour support supervisors, and direct-care staff's BSP monitoring evaluations is included in Appendix N. Fifty-four percent of behaviour support personnel and 32% of direct-care staff provided poor ratings for the quality of BSP monitoring while 36% and 38% provided favourable ratings, respectively. Because of slight differences in the wording of the questions and the different Likert scale options and number of choices, responses to the questions could not be directly compared.

Crisis management training. Direct-care personnel were also asked to rate the QAM-approved crisis management training(s) they have encountered in their work. The list was based on the Community Networks of Specialized Care's official list of approved trainings (referred to in the QAM Policy Directives). Generally, all modules were rated comparably across the direct-care personnel. Rankings and respective ratings of the modules listed in the question for the two groups are included in Appendices O and P.

Compliance inspections. Evaluating the QAM-mandated compliance inspections, 80% of direct-care service supervisors were mostly or very satisfied and 20% were mostly or very unsatisfied with the inspection process. Seventy-three percent of direct-care supervisors had not

participated in a QAM compliance inspection. Only 7% of direct-care staff participated in an inspection and all reported being mostly satisfied with the process.

Out of the 13 direct-care supervisors who had inspection-related concerns, the most common concerns were officers focusing too much on unimportant areas (54%), officers focusing too much on documentation review and inconsistencies in the inspection process (31% each), and officers overlooking important areas (54%). Only seven direct-care staff had inspection-related concerns, with three most common concerns being the advance announcement of inspections, too much focus on unimportant areas, and too much focus on documentation review (43% each).

Fulfillment of Relevant QAM Mandates

Overall QAM fulfillment. Personnel from all four groups evaluated the extent to which the direct-care service that they provide direct-care services for, oversee, or consult for generally fulfills QAM requirements, a question also included in the component analysis. A summary of responses is listed in Appendix Q. Based on non-significant Mann-Whitney *U* results, behaviour support service supervisors were combined with behaviour consultants. For the combined behaviour support personnel, direct-care supervisors, and staff, there was a significant difference between the groups, $H(2) = 49.83, p < .001$. Pairwise comparisons with adjusted *p*-values showed that direct-care staff gave lower QAM fulfillment ratings than behaviour support personnel ($p < .001, r = -.39$) and direct-care supervisors ($p < .001, r = -.44$).

Policies and procedures. Eighty percent of direct-care staff and 98% of direct-care supervisors indicated that their agency had QAM-influenced policies and procedures. Two percent of direct-care supervisors and 14% of the staff were not aware of QAM's influence on

their agency's policies and procedures. Ninety-five percent of behaviour consultants indicated that the direct-care agencies they consult to have QAM-related policies and procedures.

General QAM training. Direct-care supervisors and staff also reported on the presence of general QAM training at their agency. Fifty-three percent of staff and 77% of supervisors indicated that their agency has QAM training in place for all staff, while 30% of staff and 21% of supervisors stated that it does not.

Fulfillment of BSP-related aspects. Fifty percent of direct-care supervisors and direct-care staff who worked with persons who had BSPs indicated that all people with challenging behaviours at their agency have a BSP, while 33% of staff and 42% of supervisors stated that they did not. Only 51% of staff and 80% of supervisors specified that all BSPs at their agency have been reviewed at least twice within the past 12 months, with similar proportions of direct-care personnel identifying that all these BSPs have been approved by a professional. Over 17% of direct-care staff did not know the response to the latter two questions. A detailed summary of responses to the general BSP fulfillment questions is included in Appendix R.

Direct-care supervisors most commonly identified that the BSPs within their agency were approved by a physician or psychiatrist ($n = 48$), psychologist ($n = 34$), BCBA ($n = 23$), program manager or supervisor ($n = 15$), nurse ($n = 6$), psychological associate ($n = 6$), and RBT ($n = 6$). Forty-three percent of direct-care supervisors identified that physicians, psychiatrists, and/or psychologists but not BCBAs or BCaBAs approved BSPs at their agency. For direct-care staff, the option to select all applicable approving personnel from the response list was omitted, limiting comparison to the supervisors. Given one choice, most direct-care staff indicated program supervisor ($n = 18$), BCBA or BCaBA ($n = 14$), physician or psychiatrist ($n = 11$) or psychologist ($n = 10$) as the professionals approving BSPs of people they support.

Out of the 61 direct-care staff whose work involved BSPs, 55% indicated that they received BSP training and 36% did not. After the training has taken place, 89% of direct-care supervisors stated that they monitor staff's BSP implementation and only 6% did not. Direct-care personnel also indicated the frequency of BSP implementation checks administered (for the supervisors) and received (for the staff), with responses summarized in Appendix S. A comparison of the BSP implementation check frequency ranks showed that direct-care staff reported receiving less frequent checks (rank sum = 3162.50) than the supervisors reported administering (rank sum = 1787.50), $U = 409.50$, $z = -5.77$, $p < .001$, $r = -0.58$.

Crisis management training. Seventy-eight percent of direct-care staff and 85% of direct-care supervisors reported having crisis management training at their agency. There was no survey item asking direct-care personnel whether their agency supports people with IDD who have challenging behaviours. However, out of the 62 staff who indicated working with people who have BSPs, 85% reported that their agency has been providing crisis management training.

Obstacles to QAM Implementation

For all obstacle questions, participants could select all applicable options. The two main reported obstacle types pertained to implementing BSPs and performing BSP adherence checks.

Obstacles to BSP implementation. Direct-care staff and supervisors identified the obstacles to implementing BSP strategies they have encountered in their own practice. Frequencies and ranks for these obstacle selections are included in Table 7. For obstacles more commonly endorsed by the direct-care staff, the items with largest rank difference from supervisors were a lack of staff involvement in designing the BSP (rank difference = 12) and BSP training not being sufficient (rank difference = 11). Items that supervisors endorsed higher than the staff, with the largest rank difference, were disagreement with BSP strategies (rank

difference = 15), problems with readability and understanding of the BSP (rank difference = 9), and direct-care staff's poor understanding of their role (rank difference = 9).

Direct-care supervisors and behaviour consultants also indicated the obstacles to BSP implementation they have seen direct-care personnel encounter. Direct-care supervisors specified the obstacles only for the staff they have overseen, while behaviour consultants identified the obstacles they observed on behalf of staff and supervisors in the direct-care agencies to which they have consulted. Observed obstacle data are included in Table 8. Two obstacles with the largest rank difference among the two groups, ranked higher among direct-care supervisors, were problems with readability and understanding of the BSP (rank difference = 8) and a lack of effectiveness of the BSP strategies (rank difference = 6). Obstacles with the largest rank difference and relatively more endorsed by behaviour consultants were a lack of sufficient and/or effective supervision (rank difference = 7), and a lack of staff attendance at training sessions (rank difference = 6).

Using the data included in Tables 7 and 8, direct-care supervisors' observed obstacles for direct-care staff's BSP implementation were also compared to the direct-care staff's self-reported obstacles. The following five obstacles had the largest between-group rank differences: lack of staff involvement in designing the BSP (rank difference = 13), BSP training not being sufficient (rank difference = 12), direct-care staff's poor understanding of their role (rank difference = 8), lack of sufficient and/or effective supervision (rank difference = 7), and lack of effectiveness of the BSP strategies (rank difference = 6). Supervisors rated all these obstacles proportionally lower than staff, except for poor understanding of role, which they rated proportionally higher.

Table 7

Comparison of Obstacles to Implementing BSPs for Direct-Care Staff versus Supervisors

Rank	Staff	Supervisors
1	Lack of consistency in implementation across staff members (<i>n</i> = 25)	Lack of consistency in implementation across staff members (<i>n</i> = 22)
2	Inadequate resources, such as materials, time, competing demands or staffing (<i>n</i> = 20)	Too much staff turnover (<i>n</i> = 18)
3	Too much staff turnover (<i>n</i> = 17)	Disagreement among direct-care staff with the BSP strategies (<i>n</i> = 15)
4	Inadequate knowledge of ABA and/or PBS principles (<i>n</i> = 16)	Inadequate resources (<i>n</i> = 13)
5	BSP training is not sufficient (<i>n</i> = 16)	Inadequate knowledge of ABA and/or PBS principles (<i>n</i> = 11)
6	Lack of staff involvement in designing the BSP (<i>n</i> = 15)	Problems with readability and understanding of the BSP (<i>n</i> = 11)
7	Lack of effectiveness of the BSP strategies (<i>n</i> = 13)	Lack of accurate data collection (<i>n</i> = 11)
8	Lack of sufficient and/or effective supervision (<i>n</i> = 13)	Lack of motivation of direct-care staff and their supervisors to implement the strategies (<i>n</i> = 9)
9	Lack of motivation to implement the strategies (<i>n</i> = 12)	Disagreement with the behaviour consultants about the BSP strategies (<i>n</i> = 9)
10	Agency/staff culture or mixed messages (<i>n</i> = 11)	Direct-care staff's poor understanding of their role (<i>n</i> = 8)
11	Too many part-time staff (<i>n</i> = 11)	Too many part-time staff (<i>n</i> = 8)
12	Inability to collect accurate data (<i>n</i> = 10)	Lack of sufficient and/or effective supervision (<i>n</i> = 8)
13	Inadequate information provided in the BSP (<i>n</i> = 9)	Agency/staff culture or mixed messages (<i>n</i> = 7)
14	Interference by the adult service recipient's family members (<i>n</i> = 8)	Lack of effectiveness of the BSP strategies (<i>n</i> = 7)
15	Problems with readability and understanding of the BSP (<i>n</i> = 7)	Interference by the adult service recipient's family members (<i>n</i> = 7)
16	Inability to attend training sessions (<i>n</i> = 5)	BSP training is not sufficient (<i>n</i> = 6)
17	Assent of the individual interfering with consent of accompanying parties (<i>n</i> = 4)	Inadequate information provided in the BSP (<i>n</i> = 5)
18	My disagreement with the BSP strategies (<i>n</i> = 4)	Lack of staff involvement in designing the BSP (<i>n</i> = 5)
19	Lack of clarity about my own role (<i>n</i> = 3)	Lack of staff attendance at training sessions (<i>n</i> = 5)
20	none	Assent of the individual interfering with consent of accompanying parties (<i>n</i> = 1)

Table 8

Comparison of Obstacles to Implementing BSPs that Direct-Care Supervisors versus Behaviour Consultants Observed for Direct-Care Personnel

Rank	Direct-Care Supervisors (for Direct-Care Staff Only)	Behaviour Consultants (for Staff & Supervisors in Direct-Care)
1	Lack of consistency in implementation across staff members ($n = 23$)	Lack of consistency in implementation across staff members ($n = 66$)
2	Too much staff turnover ($n = 15$)	Too much staff turnover ($n = 59$)
3	Inadequate resources ($n = 14$)	Inadequate resources ($n = 58$)
4	Inadequate knowledge of ABA and/or PBS principles ($n = 13$)	Lack of motivation of direct-care staff and their supervisors to implement the strategies ($n = 55$)
5	Disagreement among staff with the BSP strategies ($n = 13$)	Inadequate knowledge of ABA and/or PBS principles ($n = 53$)
6	Agency/staff culture or mixed messages ($n = 10$)	Lack of accurate data collection ($n = 51$)
7	Problems with readability and understanding of the BSP ($n = 10$)	Disagreement among staff with the BSP strategies ($n = 46$)
8	Lack of motivation of direct-care staff and their supervisors to implement the strategies ($n = 10$)	Lack of sufficient and/or effective supervision ($n = 46$)
9	Lack of accurate data collection ($n = 10$)	Agency/staff culture or mixed messages ($n = 41$)
10	Interference by family members ($n = 9$)	Too many part-time staff ($n = 40$)
11	Direct-care staff's poor understanding of their role ($n = 8$)	Direct-care staff's poor understanding of their role ($n = 34$)
12	Too many part-time staff ($n = 7$)	Lack of staff attendance at training sessions ($n = 32$)
13	Lack of effectiveness of the BSP strategies ($n = 7$)	Interference by family members ($n = 24$)
14	Disagreement with the behaviour consultant about the BSP strategies ($n = 7$)	Disagreement with the behaviour consultant about the BSP strategies ($n = 18$)
15	Lack of sufficient and/or effective supervision ($n = 6$)	Problems with readability and understanding of the BSP ($n = 13$)
16	Inadequate information provided in the BSP ($n = 5$)	BSP training is not sufficient ($n = 12$)
17	BSP training is not sufficient ($n = 5$)	Lack of staff involvement in designing the BSP ($n = 8$)
18	Lack of staff attendance at training sessions ($n = 5$)	Assent of the individual interfering with consent of accompanying parties ($n = 4$)
19	Lack of staff involvement in designing the BSP ($n = 4$)	Lack of effectiveness of the BSP strategies ($n = 3$)
20	Assent of the individual interfering with consent of accompanying parties ($n = 1$)	Inadequate information provided in the BSP ($n = 2$)

Table 9

Comparison of Obstacles to Implementing BSP Adherence Checks Experienced by Behaviour Consultants to Behaviour Support Supervisors' Rating of Behaviour Consultants' Obstacles

Ranking	Behaviour Consultants	Behaviour Support Service Supervisors
1	Direct-care staff performing differently when being observed ($n = 42$)	Inadequate resources ($n = 15$)
2	Inadequate resources ($n = 37$)	Too much (direct-care) staff turnover ($n = 12$)
3	The individual not showing any target behaviours during adherence checks ($n = 35$)	Direct-care staff performing differently when being observed ($n = 12$)
4	Not enough time available for you to perform adherence checks ($N = 33$)	Lack of supervisor availability ($n = 11$)
5	Too much (direct-care) staff turnover ($n = 32$)	Caseload of behaviour consultant too large to routinely do adherence checks ($n = 11$)
6	Lack of supervisor availability ($n = 32$)	Not enough time available for the behaviour consultant to perform adherence checks ($n = 9$)
7	Caseload of behaviour consultant too large to routinely do adherence checks ($n = 29$)	Unwillingness of direct-care staff and their supervisors to be monitored ($n = 8$)
8	Too many part-time staff ($n = 28$)	Inadequate resources for the behaviour consultant to do adherence checks ($n = 8$)
9	Lack of direct-care staff availability ($n = 25$)	Too many part-time staff ($n = 7$)
10	Unwillingness of direct-care staff and their supervisors to be monitored ($n = 23$)	The individual not showing any target behaviours during adherence checks ($n = 6$)
11	Inadequate resources for the behaviour consultant to do adherence checks ($n = 15$)	Lack of direct-care staff availability ($n = 5$)

Obstacles to BSP adherence checks. Behaviour support personnel also listed their encountered obstacles for BSP adherence checks. Ranked responses are in Table 9. The only large difference was for the service recipient not showing target behaviours during checks (rank difference = 7), with more behaviour consultants than supervisors specifying this obstacle.

Use of Feedback

Direct-care personnel reported on their experience with positive feedback, negative feedback, and tangible consequences. Forty-one percent of staff received and 85% of supervisors administered positive feedback. A chi-square comparison of the responses showed that supervisors reported administering significantly more positive feedback than staff indicated receiving, $\chi^2(1) = 32.33, p < .001, \phi = -.526$. Figure 2 shows satisfaction ratings for positive feedback. For corrective feedback, 54% of staff received it and 85% of direct-care supervisors administered it. A chi-square comparison showed that staff's experience receiving corrective feedback was significantly different from supervisors' reported use of this feedback, $\chi^2(1) = 20.26, p < .001, \phi = -.420$. Figure 3 shows satisfaction ratings for corrective feedback. Detailed response data for positive and corrective feedback are included in Appendix T.

Comparisons between positive and corrective feedback ratings across the two direct-care groups were not made because of weak power associated with the small sample size of direct-care staff responses. The post-hoc computed power values were $1-\beta = 0.59$ for positive and $1-\beta = 0.66$ for corrective feedback, respectively. Combining ratings for the two types of feedback, a non-parametric comparison of staff (rank sum = 6132.00) and supervisors (rank sum = 12204.00) yielded a significant difference, $U = 3504.00, z = -2.44, p = .015, r = -0.18$. A comparison of positive (rank sum = 9225.50) and corrective (rank sum = 8919.50) feedback using the two groups' combined responses approached significance, $U = 3869.50, z = -1.93, p = .053, r = -0.14$.

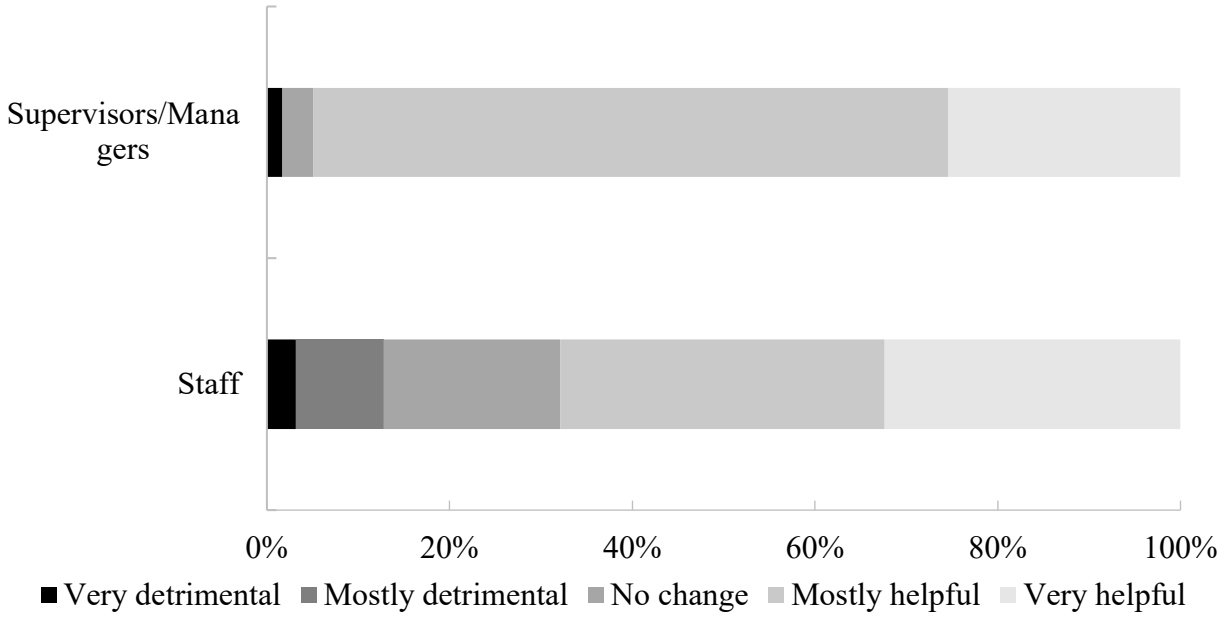


Figure 2. Satisfaction with positive feedback for $n = 31$ direct-care staff and $n = 59$ direct-care supervisors.

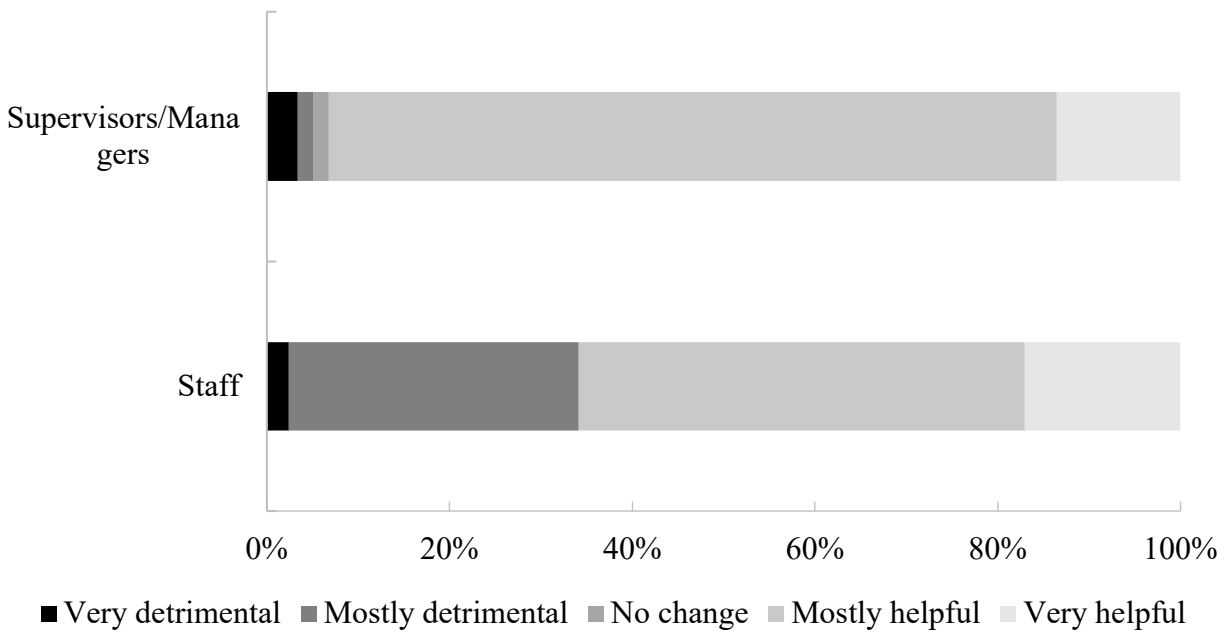


Figure 3. Satisfaction with corrective feedback for $n = 41$ direct-care staff and $n = 59$ direct-care supervisors.

None of the direct-care staff reported receiving tangible benefits, while 21% of direct-care supervisors stated that they have used this contingency. Of the supervisors who administered tangible benefits, 25% rated the effects as mostly detrimental or no change and 75% as mostly or very helpful.

Change-Related Variables

Behaviour support supervisors, behaviour consultants, and direct-care supervisors provided responses to several change and service impact-related questions relevant for the organizational theory testing. For the question about general impact of QAM on their agency's services, 80% of direct-care supervisors, 72% of behaviour consultants, and 77% of behaviour support supervisors rated this impact as favourable. Evaluating the fit between QAM and their agency's mission, 79% of direct-care supervisors, 80% of behaviour consultants, and 81% of behaviour support supervisors described this fit as good or excellent. Rating the extent of BSP change since QAM, 35% of direct-care supervisors identified minimal or no change, 35% noted partial change, and 23% noted full change. For behaviour support supervisors, 27% specified none or slight change, 31% indicated partial change, and 35% noted full change.

Discussion

In this study, five original surveys were developed to primarily determine the impact of various areas of QAM for Behaviour Interventions (Part III) and the QAM Policy Directives on services for adults with IDD across Ontario. Because there was little formal evidence about the impact of QAM prior to this research, the surveys were exploratory and no hypotheses were proposed. Developmental service personnel who took the survey and were included in the analyses were direct-care staff and supervisors in residential, respite, SIL, and day program services, and behaviour consultants and supervisors in behaviour support services. This study

sought to answer questions about the participants' knowledge, opinions, and agency fulfillment of QAM in general and the parts of QAM related to challenging behaviour (Part III, Policy Directives), obstacles to the implementation of BSP-related areas of QAM, direct-care supervisory contingencies used to promote QAM adherence, and how QAM impact aligns with the two organizational theories.

Knowledge of QAM

Direct-care staff demonstrated less knowledge of QAM for Behaviour Interventions and the QAM Policy Directives than supervisors in direct-care services and both groups of behaviour support service personnel. Relatively poor QAM knowledge on behalf of direct-care staff may indicate a lack of effective QAM training at the staff's agency. One form of QAM training provided to direct-care staff across Ontario agencies have been the video modules available on the website www.qamtraining.net. According to some personnel the researchers consulted with, these didactic videos have been a sole means of QAM training for direct-care staff.

Research suggests that training consisting of written and/or verbal instructions only has limited effectiveness, potentially because of a disconnect between stimuli in the training and practical settings (Ducharme & Feldman, 1992; Parsons, Rollyson, & Reid, 2012). Didactic instruction may have a stronger impact on the rote, verbal knowledge tested using the multiple-choice tests included in the current survey (Gardner, 1972). However, if the staff do not sufficiently interact with the initially-learned QAM concepts in their practice, they will fail to encounter the relevant contingencies and the behaviours will undergo extinction (Harchik, Sherman, Sheldon, & Strouse, 1992). Even if the other groups obtained the same initial training as the direct-care staff, their greater contact with aspects of QAM through their practice may have compensated for the shortcomings of training by promoting skill maintenance. For instance, most of the direct-care

supervisors participated in a QAM compliance inspection, compared to only five direct-care staff. Further, component analyses of evidence-based training packages such show that individual methods (e.g., role-playing, instructions) may be responsible for the effectiveness of the overall package. For instance, in a component analysis of BST, Ward-Horner and Sturmey (2012) found that only feedback resulted in consistent increases in trainees' target behaviour. The current survey did not include a question about the methods comprising the participants' general QAM training. Determining additional aspects of general QAM training and practice of various personnel in IDD services would help explain the direct-care staff's knowledge gap.

Opinion of QAM

For the general QAM opinion, direct-care staff also had significantly different results compared to the other three personnel groups. Overall, responses across the groups fell in the Satisfied range. However, direct-care staff were significantly less satisfied with QAM than other groups. Differences between the responses of direct-care staff and other personnel groups on the more specific obstacle and experience questions provide some potential reasons for direct-care staff's relatively poorer opinion of QAM. Considerably more direct-care staff than their supervisors indicated that staff received insufficient BSP training and did not have enough involvement in designing the BSP. Direct-care staff also rated all supervisor feedback more poorly than the supervisors' self-report of their own feedback to staff. Other concerns that behaviour support service personnel specified are in line with direct-care staff's concerns. Most behaviour consultants and behaviour support supervisors rated direct-care program supervisors' quality of BSP monitoring as ineffective. Together, these data suggest that a potential lack of training, monitoring, and direct-care staff's insufficient control over their own role may be contributing to direct-care staff's relatively lower overall QAM satisfaction.

Top concerns related to resource shortages are consistent with the issues raised in the 2014 Select Committee on Developmental Services report, pertaining to resources potentially not catching up with the requirements of QAM and the QAM Policy Directives. Considering the more general response pattern, other staff may also have concerns about the new funding system that they did not directly specify. Therefore, this issue warrants further investigation, possibly on an agency-specific basis, in future research, or as part of governmental QAM adherence checks.

Direct-care staff were least concerned about having difficulty following QAM-based BSPs compared to all other concerns listed in the question. By contrast, direct-care supervisors identified BSPs being difficult for them and/or direct-care staff to follow as one of their two top concerns, along with not enough funding for meeting QAM requirements. Although the participating direct-care staff were potentially more experienced than the general population of direct-care staff, with two-thirds having work experience with adults with IDD, experience was not a significant contributing factor to the staff's understanding of BSPs.

Supervisors' high rating of direct-care staff's problems following BSPs may have been based on their direct observation of staff's BSP implementation. By contrast, direct-care staff may read and feel that they understand the BSP but fail to translate the BSP into practice for multiple potential reasons. Research shows that support plan implementation fidelity depends on its "contextual fit" with the social and physical environment of the program and the person receiving supports (Benazzi, Horner, & Good, 2006). Given direct-care staff's concern about not having enough involvement in the development of BSPs, a possible lack of contextual fit may be a barrier to the staff's BSP implementation. Another contributing factor may be, as with didactic general QAM training, the limited stimulus control of written BSPs alone when there is inadequate accompanying practice, monitoring, and/or no programming for generalization

(Ducharme & Feldman, 1992; Ducharme, Williams, Cummings, Murray, & Spencer, 2001).

About 80% of the direct-care staff indicated that the BSP was mostly or very important in helping to manage challenging behaviour of people they support. Therefore, it may be unlikely that direct-care staff actively avoid following the BSP.

Direct-care personnel's opinion of QAM compliance inspections was, for the most part, favourable. Most of the responses to this question came from direct-care supervisors, however, as very few direct-care staff ever participated in a compliance inspection. During compliance inspections, an inspection officer visits the agency at least once per year and uses a checklist to determine the urgency with which a non-compliance situation, if present, should be addressed. If an agency is non-compliant, it faces undesirable consequences in the form of a publicly posted letter and a follow-up visit from an officer. Positive procedures are consistently rated as being more acceptable than negative, aversive stimulus-involving ones (Miltenberger, 1990). If the compliance inspections are aversive and have punishing properties, the predominantly favourable ratings are unexpected. It is possible that some aspects of the inspection, such as checking off the areas where the agency is compliant, serve as positive reinforcers for direct-care personnel. The main inspection-related concerns that direct-care staff and supervisors in direct-care services reported most often were related to inefficiencies of the process, such as focus on unimportant areas, procedural inconsistencies, or too much documentation review. More direct-care staff than supervisors were concerned with the announcement of inspections giving agencies time to prepare, perhaps because they may experience relatively more preparation-related pressures, as Courtney and Hickey's (2016) findings suggest. Overall, these results indicate that the inspections are a well-received practice among direct-care staff but some improvements can be made to the process.

Fulfillment of QAM

Most personnel stated that their agency had policies and procedures related to QAM, but a few reported that it did not. This finding suggests that, even though QAM has been introduced 10 years ago, not all agencies have caught up with fulfilling its requirements even at their most basic level. Almost a fifth of direct-care staff were not aware of the presence of QAM-related policies and procedures at their agency, a relatively high proportion compared to other personnel, may result from a lack of awareness about QAM and/or about their agency's policies and procedures. A contributing factor may be, again, poor QAM training and/or direct-care staff's limited involvement in their agency's QAM-related operations. In support of this possibility, about a third of direct-care staff and one-fifth of direct-care supervisors reported that their direct-care agency does not provide mandatory QAM training for the staff.

For BSP-specific training, just over a third of direct-care staff indicated that they have not received any BSP training. This result is consistent with insufficient BSP training ranking as one of the highest BSP implementation concerns for direct-care staff. Direct-care staff also indicated that their BSP implementation was monitored much less often than direct-care supervisors' self-reported frequencies of their own BSP checks. Overseeing multiple direct-care staff, supervisors may have a distorted awareness of how often they monitor each staff member without reviewing past records. It is also possible that social desirability bias contributed to this difference, with direct-care supervisors exaggerating the frequency of their BSP adherence checks.

Direct-care staff's and supervisors' listing of people approving BSPs within their agency most commonly included personnel who are required by QAM to be one of the approvers of a BSP: behaviour analysts certified by the Behaviour Analyst Certification Board, physicians or psychiatrists, psychologists, or psychological associates. Other titles not sanctioned within QAM

were mentioned less frequently but are of concern if they are the only people approving a BSP. Examples included agency supervisors, nurses, Registered Behaviour Technicians, social workers, family members, and agency executive directors. More direct-care supervisors indicated that psychologists, physicians, or psychiatrists approved their agency's BSPs than behaviour analysts, with nearly half specifying one of the former without also selecting the BCBA option. When professionals with wrong expertise approve BSPs, such as medical practitioners being the sole approvers of BSPs with behavioural components, the BSPs may have inadequate information for guiding intervention (Benazzi et al., 2006; Cook et al., 2007; Webber, McVilly, Fester, & Chan, 2011). In Benazzi et al.'s (2006) study, an expert panel of behaviour analysts judged the BSPs developed with a BCBA on the team as more technically adequate than when a BCBA was not involved. Considering the evidence base supporting the use of ABA for this population in community support settings and the behavioural nature of most strategies included in BSPs, the high prevalence of non-behavioural professionals as independent approvers of BSPs is concerning. Notably, QAM does not require a behaviour analyst's approval for a BSP.

Obstacles to QAM Implementation

Relevant to a potential link between BSP effectiveness and non-behavioural professionals approving BSPs, direct-care staff experienced the lack of BSP effectiveness and their insufficient involvement in BSP design more frequently than their supervisors observed, based on each group's concern frequency rankings. These differences in experienced and supervisor-observed concerns may signal limited contact and/or communication between direct-care supervisors and the staff they oversee. In support of this potential explanation, over half of behaviour consultants

reported a shortage of supervision as one of direct-care staff's encountered obstacles in BSP implementation.

Other top obstacles related to BSP implementation that direct-care staff, supervisors, and behaviour support consultants indicated were a lack of consistency in BSP implementation, too much direct-care staff turnover, and inadequate available resources. For encountered BSP adherence check obstacles, behaviour support personnel also commonly mentioned a lack of resources and direct-care staff turnover. These reported obstacles highlight the necessity of addressing the potential causes of direct-care staff turnover. Some factors contributing to turnover may include inadequate resources, skills, limited contact with other personnel, and a perceived lack of control (Sharrard, 1992).

For BSP monitoring, all rank differences between the behaviour consultants' and behaviour support supervisors' obstacles to implementing BSP adherence checks were relatively small except for the person receiving supports not showing target behaviours. Behaviour support supervisors may encounter the target behaviour-related obstacle less often than behaviour consultants, who conduct direct assessment, as it is observation-based unlike the other obstacles listed in the question.

Performance Contingencies/Feedback

Compared to direct-care supervisors, direct-care staff provided significantly less favourable ratings of supervisory feedback. There is little research that directly compares direct-care staff and supervisor differences in perception of feedback. Contrary to the present finding, Miltenberger, Larson, Doerner, and Orvedal (1992) found that staff and supervisors in direct-care services self-reported similar mean acceptability ratings of supervisory feedback and praise after reading a written scenario describing an application of the two approaches. However,

direct-care staff and their supervisors differed in their mean acceptability ratings for other management procedures, such as instructions, which staff rated significantly higher than supervisors. Green and Reid (1994) found that teacher supervisors in a school setting provided the least favourable ratings for critical feedback, although still in the favourable range, and trainee teaching assistants rated this feedback type most favourably.

Expanding from this emerging research, there may be other specific features of feedback of direct-care supervisors developmental service settings that would account for the between-group difference found in the current study. For instance, direct-care supervisors may be commonly providing written, delayed feedback (DiGennaro Reed & Henley, 2015; Parsons & Reid, 1995). However, direct-care staff may prefer immediate, orally delivered feedback (Reid & Parsons, 1996). With a translation gap between research and practice for optimal management approaches, supervisor and staff acceptability of the used contingencies plays a key role in treatment adherence (Parsons, 1998). Determining the features of feedback that would maximize its acceptability for supervisors and staff may help alleviate adherence-related concerns frequently indicated in the survey, such as implementation inconsistencies across the staff and the staff's unwillingness to be trained.

Direct-care personnel groups' merged evaluations for the impact of positive feedback were marginally higher than for critical feedback. The direction of this finding is consistent with previous studies, where direct-care supervisors felt better about giving positive feedback (Berkowitz & Levy, 1955) and viewed positive interactions as relatively more effective for motivating staff (Parsons et al., 2003). Potentially detrimental impacts of corrective feedback on group dynamics may result in lower subjective ratings, despite its equal or greater effectiveness compared to positive feedback (Mesch et al., 1994; Peterson & Behfar, 2003; Prussia & Kinicki,

1996). As this difference just approached but did not fall below the current study's significance criterion, the noted effect of feedback valence should not be treated as conclusive.

Finally, supervisors and staff reported very few instances of tangible consequence use, which may be desirable as there is some evidence that this type of contingency may be poorly received by staff (Lieberman, 1979, cited in Reid & Whitman, 1983). In the current study, the eight direct-care supervisors who used tangible benefits were mostly satisfied with them; only one supervisor rated these contingencies as detrimental. Given the lack of recent studies, follow-up research on the usefulness of various tangible consequences may be warranted.

Structuralist and Selectionist Theory Analysis

Personnel's responses to the impact of QAM were predominantly favourable, with evidence of their receptiveness to QAM-related changes and QAM's compatibility with services. Positive indications of the fit and impact of QAM are in line with the selectionist perspective, with personnel acting toward and their actions being reinforced by the contingencies associated with the new legislation. Nevertheless, a minority of personnel identified a poor fit between QAM and their agency's operations. Resistance to external legislative changes may be the sign of an agency's rational self-governance, as proposed by a structuralist model. Alternatively, a lack of change can indicate ineffective QAM-related contingencies.

Compliance inspections, which typically occur on a yearly basis, are the government's primary method of promoting QAM adherence. Because the adherence checks occur so infrequently, on their own, they may not be sufficient to maintain QAM compliance. Experimental research demonstrates that very thin variable-interval reinforcement schedules produce relatively low inter-reinforcement response rates compared to denser schedules (Catania & Reynolds, 1968). If rule governance (Malott, 1993) across the agency is weak, any

reinforcement provided by the inspections may be inadequate to maintain personnel adherence. Additionally, the agencies receive advance notification about the inspection, as direct-care personnel indicated in their inspection-related concerns. Predictability of the consequence may further reduce the need to engage in compliance behaviours when the reinforcer is absent, or between inspections. In support of this idea, in an experimental study where rats' lever pressing was reinforced on a variable-interval schedule, average response rates were lower with signalled compared to non-signalled reinforcement (Tarpy, Roberts, Lea, & Midgley, 1984). Assuming the same laws govern human behaviour, agency rule governance and/or management contingencies may have more impact on QAM-compliant behaviour than the inspections. Importantly, inspection officers also do not look for some core indicators of QAM impact, such as the effectiveness of BSPs or the quality of life of the person receiving supports (MCSS, 2015). Instead, officers often focus on unimportant areas and may be primarily interested in the agency's QAM-related paperwork, two most common compliance-related concerns that direct-care personnel indicated.

The proportion of personnel who indicated a lack of QAM-related change within their agencies was relatively low. Therefore, these agencies' lack of adaptation may more likely result from exceptionally poor internal contingencies, rather than signalling a structuralist mechanism of agency dynamics. It is also possible that structuralist and selectionist mechanisms both play a role in explaining agency behaviour.

Limitations

Some limitations of the current study include inaccuracies associated with self-report and rating questions, non-response rates, and constraints related to consultation and piloting of the survey. Self-reported data may be subject to several inaccuracies. For instance, frequency self-

reports are subject to error, as they involve the recall of past events (Burton & Blair, 1991). In the present study, participants self-reported approximate rates of supervisory contingencies and within-agency QAM compliance inspections. Additionally, evaluation scales for feedback may not differentiate between feedback-related preferences (Parsons, 1998). Including choice questions related to various properties and/or types of feedback in future surveys may yield more accurate information about personnel's preferences and perceived impact of feedback.

Another issue with self-administered online questionnaires is a greater non-response rate compared to surveys distributed offline (Roster, Rogers, Hozier, Baker, & Albaum, 2007). Conducting face-to-face interviews and/or making the survey mandatory to compensate for this problem was not possible in the current study. For this reason, some groups may have been under-represented in the sample. According to a 2013 Canadian Union of Public Employees (CUPE) Research Report (CUPE, 2013), there are about 8000 members in the Ontario developmental services sector union (most of whom would be the direct-care professionals), across approximately 200 developmental service agencies. A portion of the staff included in this figure likely work with children. Based on the current study's researchers' informal communications with a representative from the Community Networks of Specialized Care and experience-based estimates, there may be approximately 650 direct-care supervisors, 300 behaviour consultants, and 30 behaviour support supervisors in Ontario. More precise information on the size of each personnel group in the province was not available to the researchers for comparison.

Another participation-related obstacle was the lack of access to a direct list of provincial agency contacts. The researchers asked third parties, such as service and provincial mailing list coordinators, along with contacted agencies to help distribute the survey. With the use of indirect

recruitment methods, the researchers could not always confirm whether the extent to which relevant personnel in eligible agencies across the province participated in the study.

A third limitation area of the current study pertains to the pretesting, or the consultation phase, of the study. After the surveys were initially pretested, the researchers transferred the survey from the SurveyMonkey platform to Qualtrics. The Qualtrics platform allowed the researchers to build in a feature for participants to provide consent for the use of their partial responses in the study if they quit the survey before completing it. Losing all incomplete responses would reduce the amount of collected data, while not providing this consent option would potentially be an issue for receiving REB approval. After the transfer was conducted, a few questions did not function as intended. For instance, one “Select all that apply” question only allowed for one choice. While conducting a second pretest would help remediate this issue, it was not possible for the current study because of time constraints.

Conclusion

Overall, and parallel to most of the legislative research in other countries, the findings showed that most developmental service personnel and their agencies in Ontario have predominantly adopted the main aspects of QAM for Behaviour Interventions and QAM Policy Directives in their practice. Also, personnel were generally satisfied with QAM, but some QAM-related concerns were consistently voiced within and across groups. There may be challenges related to direct-care staff’s consistent QAM-compliant service implementation, training and monitoring, lack of direct-care staff involvement in the BSPs of people they support, disconnect between direct-care staff’s experience and their supervisors’ perceptions, and inefficiencies in QAM compliance checks. Some of these challenges may be related to a lack of resources such as money, time, or personnel, concerns that all participant groups indicated across their responses.

Potential generalities, gaps, and ambiguities of QAM regulations may have also contributed to the common issues across responses. Examples of QAM shortcomings may include not making it mandatory for a behaviour analyst to approve each BSP or not specifying evidence-based staff management procedures. Future efforts should be directed toward addressing these concerns at the QAM level and at the service level for Ontario agencies serving adults with IDD.

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Appendix A

Consultation Phase Part I: Interview Questions

- Are you aware of DSO legislation that has Quality Assurance Measures for Behaviour Interventions, which is generally referred to as QAM?
- Are you aware of the follow-up QAM Policy Directives issued in 2012?
- As a (name of personnel group), what has been your experience with QAM for Behaviour Interventions?
- Thinking back when before QAM was implemented, has QAM:
 - Changed your professional behaviour
 - If so, how?
- What are the general issues addressed by the QAM?
- What do you like about QAM?
- What are your concerns with QAM, if you have any?
- Since the QAM, how has your knowledge of the following topics changed?
 - Applied Behaviour Analysis
 - Positive Behaviour Supports
 - Challenging behaviour

- Functional behavioural assessment (referred to as functional assessment in QAM)
- Biopsychosocial model
- Intrusive procedures

Appendix B

Consultation Phase Part II: Survey Outline

Knowledge of QAM and its embedded principles

Please rate the relevance of this domain to the QAM survey:

- Not Relevant
- Slightly Relevant
- Relevant
- Very Relevant

Agencies' fulfillment of responsibilities and implementation of QAM

Please rate the relevance of this domain to the QAM survey:

- Not Relevant
- Slightly Relevant
- Relevant
- Very Relevant

Staff (your) opinions of QAM

Please rate the relevance of this domain:

- Not Relevant
- Slightly Relevant
- Relevant
- Very Relevant

Other Domains?

Topics

- **Knowledge of QAM and its embedded principles**
 - QAM definition of challenging behaviour
 - Applicability of the QAM to different services
 - Functional [Behaviour] Assessment
 - Intrusive procedures
 - Banned procedures
 - BSP content/procedures
 - QAM policy and directives related to interventions for challenging behaviour

Comments/Additions:

- **Agencies' fulfillment of responsibilities and implementation of QAM**
 - Agency Policies and Procedures
 - Staff BSP training
 - Monitoring BSP implementation

- Adherence checks
 - Frequency
 - Obstacles
- Obstacles in the implementation of the BSPs (e.g., information gaps/high quality assessments not available)
- Usefulness of each of the BSP components
- What happens after discharge – how long is your follow-up?

Comments/Additions:

- **Staff (your) opinions of QAM, including Policy Directives**
 - Opinions and feelings about the QAM itself
 - Opinions and feelings about your QAM-related training opportunities
 - Use of the behaviour support plan (BSP): Satisfaction with BSP components, training and support in implementing BSPs, BSP effectiveness, change in the BSP template because of QAM
 - Opinions and feelings about the system of monitoring direct-care staff BSP implementation

Comments/Additions:

Appendix C

Recruitment Flyer



Ontario Quality Assurance Measures for Behaviour Interventions

Province-Wide Online Survey Study

Investigators: Dr. Maurice Feldman, Dr. Rosemary Condillac, & Evguenia Ignatova
Department of Applied Disability Studies, Brock University

Calling all behaviour consultants, managers of behaviour support services, direct-care staff, and managers/supervisors of residential, day, respite, and supported independent living (SIL), who provide services to *adults*!

Participation in this 15-20 min online, fully confidential survey is your opportunity to voice your experiences and concerns about the Ontario Quality Assurance Measures for Behaviour Interventions and the accompanying Policy Directives. Results will potentially inform future developmental service policy and practice.

All participants will receive a summary of the results and are eligible for complementary QAM training.

More Information and Survey Links: <http://www.ontarioqamstudy.com/>

Questions? Contact Evguenia Ignatova at ei09zl@brocku.ca or Dr. Feldman at maurice.feldman@brocku.ca.

This study has received clearance from the Brock University Research Ethics Board (#16-108)

Appendix D

Letter of Request for Agency Representatives

Name
Title
Agency Name
Agency address

Title of study: Province-Wide Survey of the Effects of Quality Assurance Measures on Services for Clients with Developmental Disabilities and Challenging Behaviours

Researchers: Maurice Feldman, Rosemary Condillac and Evguenia Ignatova, Dept. of Applied Disability Studies, Brock University, St. Catharines, Ontario

Dear _____:

We are conducting an online survey examining direct-care staff's, behaviour consultants', and their managers' knowledge, implementation and opinions about the Ontario Quality Assurance Measures (QAM) on Behaviour Intervention Strategies, part of Services and Supports to Promote the Social Inclusion of People with Developmental Disabilities Act (2008), and the Policy Directives.

We would appreciate if you would be so kind as to please distribute by email the attached separate flyer to the direct-care staff and any managers/supervisors at _____. If you are not sure to whom to distribute the flyer, please contact the Principal Student Investigator, Evguenia Ignatova, at ei09zl@brocku.ca.

The survey should take your staff approximately 15-30 minutes to complete. The results of this survey could help to inform future policies and research on behavioural interventions for adults with intellectual disabilities and may be shared with the Ontario government for this purpose. The results of the survey will be posted in summary form on Dr. Feldman's Brock website, <https://brocku.ca/social-sciences/departments-and-centres/centre-for-applied-disability/faculty/maurice-feldman>. You may ask to receive the results from the researchers.

If you have any pertinent questions about the rights of research participants on behalf of your agency, please contact the Brock University Research Ethics Officer (905-688-5550 ext. 3035, reb@brocku.ca).

If you have any questions about this study, please feel free to contact the Principal Student Investigator, Evguenia Ignatova, at ei09zl@brocku.ca, or me at mfeldman@brocku.ca.

Sincerely yours,
Maurice Feldman, Ph.D., BCBA-D, C.Psych.
Professor, Chair and Graduate Program Director

Department of Applied Disability Studies, Brock University

This study has received clearance from the Brock University Research Ethics Board (#16-108)

Appendix E

Individual Letter of Invitation

(Date)

Title of study: Province-Wide Survey of the Effects of Quality Assurance Measures on Services for Clients with Developmental Disabilities and Challenging Behaviours

Researchers: Maurice Feldman, Rosemary Condillac and Evguenia Ignatova, Brock University, Dept. of Applied Disability Studies

We invite you to participate in an anonymous survey study examining the impact of Quality Assurance Measures (QAM) on Behaviour Intervention Strategies, part of Services and Supports to Promote the Social Inclusion of People with Developmental Disabilities Act (2008), and the subsequent Policy Directives on developmental services in Ontario.

This survey is targeted toward behaviour consultants, managers of behaviour support services, direct-care staff, and managers/supervisors of residential, day, respite, and supported independent living (SIL), in adult services only. The purpose of this research is to determine developmental service personnel's knowledge, implementation and opinions of QAM.

If you are interested in participating in this survey, please click on the survey link that corresponds to your professional role:

Day/residential/respite service managers and/or supervisors:

https://brocklrc.az1.qualtrics.com/jfe/form/SV_0Nz5KunYuqrJofb

Direct-care staff in day/residential/respite services:

https://brocklrc.az1.qualtrics.com/jfe/form/SV_4ImLJlISZSSPTed

Behaviour consultants associated with a behaviour support agency:

https://brocklrc.az1.qualtrics.com/jfe/form/SV_0e0QVEA0upKSSpv

Behaviour consultants in private practice:

https://brocklrc.az1.qualtrics.com/jfe/form/SV_a3PyuCLzS5Z2CVf

Behaviour support service managers and/or supervisors:

https://brocklrc.az1.qualtrics.com/jfe/form/SV_2noSHwVycjqj3N3

The survey should take approximately 15-30 minutes to complete. The results of this survey could help to inform future policies and research on behavioural interventions for adults with intellectual disabilities and may be shared with the Ontario government for this purpose. The results of the survey will be posted in summary form on Dr. Feldman's Brock website, <https://brocku.ca/social-sciences/departments-and-centres/centre-for-applied-disability/faculty/maurice-feldman>. You will also can register for a free webinar on QAM. Details are provided at the beginning of the survey.

You may also encounter social media and/or website postings about this study. Please note that if you interact with the study-related social media posts, such as by commenting on or reacting to the post, their privacy and/or confidentiality may be compromised. If you have any pertinent questions about your rights as a research participant, please contact the Brock University Research Ethics Officer (905-688-5550 ext. 3035, reb@brocku.ca).

If you have any questions about this study, please feel free to contact any of the researchers (see contact information below).

Thank you,

Principal Investigator and Primary Faculty Supervisor

Maurice Feldman, Ph.D. C. Psych., BCBA-D
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Principal Student Investigator

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Brock University
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This study has been reviewed by and received clearance from the Brock University Research Ethics Board (#16-108)

Appendix F

Sample Email Script for Third Party Recruitment: Direct-Care Service Example

Email subject line: Ontario Quality Assurance Measures Online Survey Invitation

Email body: Stakeholders who are responsible for developing and/or regulating developmental service-related laws do not currently have any general evidence to give them an overall picture of how these laws affect these services in Ontario.

Evguenia Ignatova, Dr. Maurice Feldman, and Dr. Rosemary Condillac at the Department of Applied Disability Studies at Brock University are doing a province-wide anonymous online survey to clarify the strengths and weaknesses of developmental service laws in Ontario. The survey focuses on the Behaviour Interventions section of a set of laws called the Quality Assurance Measures (QAM), along with the QAM Policy Directives. This research has been reviewed by and received clearance from the Brock University Research Ethics Board (#16-108).

If you are a direct-care/front-line staff, a manager or supervisor of direct-care services, you are invited to participate in the survey. Attached is a flyer with a link to the study website, <http://www.ontarioqamstudy.com/>, which contains the survey links and more information about the study. You may also directly access the survey related to your role using the links below:

Day/residential/respite service managers and/or supervisors:

https://brocklrc.az1.qualtrics.com/jfe/form/SV_0Nz5KunYuqrJofb

Direct-care staff in day/residential/respite services:

https://brocklrc.az1.qualtrics.com/jfe/form/SV_4ImLJIISZSSPTed

You can ask to receive a copy of the detailed summary of this study's results from the primary student investigator, Evguenia Ignatova, at ei09zl@brocku.ca when the study is finished. No agencies and/or participants will be identifiable from the survey results.

Thank you for your time and consideration!

Principal Student Investigator

Evguenia Ignatova, MA Candidate
ei09zl@brocku.ca

Principal Investigator and Primary Faculty Supervisor

Maurice Feldman, Ph.D., C. Psych., BCBA-D
mfeldman@brocku.ca

Co-Investigator

Rosemary Condillac, Ph.D., C. Psych., BCBA-D
rcondillac@brocku.ca

Appendix G

Sample Social Media Posting Targeted for Behaviour Support Personnel

We invite you to participate in an anonymous survey study examining the impact of Quality Assurance Measures (QAM) on Behaviour Intervention Strategies, part of Services and Supports to Promote the Social Inclusion of People with Developmental Disabilities Act (2008), and the subsequent Policy Directives on developmental services in Ontario. This study is being conducted by Dr. Maurice Feldman, Dr. Rosemary Condillac, and Evguenia Ignatova at Brock University.

This survey is targeted toward behaviour consultants, managers of behaviour support services, direct-care staff, and managers/supervisors of residential, day, respite, and supported independent living (SIL), in adult services only. The purpose of this research is to determine developmental service personnel's knowledge, implementation and opinions of QAM.

If you are interested in participating in this survey, please click on the survey link that corresponds to your professional role:

Behaviour consultants associated with a behaviour support agency:

https://brocklrc.az1.qualtrics.com/jfe/form/SV_0e0QVEA0upKSSpv

Behaviour consultants in private practice:

https://brocklrc.az1.qualtrics.com/jfe/form/SV_a3PyuCLzS5Z2CVf

Behaviour support service managers and/or supervisors:

https://brocklrc.az1.qualtrics.com/jfe/form/SV_2noSHwVycjqj3N3

The survey should take approximately 15-30 minutes to complete. The results of this survey could help to inform future policies and research on behavioural interventions for adults with intellectual disabilities and may be shared with the Ontario government for this purpose. The results of the survey will be posted in summary form on Dr. Feldman's Brock website, <https://brocku.ca/social-sciences/departments-and-centres/centre-for-applied-disability/faculty/maurice-feldman>. You will also can register for a free webinar on QAM as a thank you for your participation.

You may also encounter social media and/or website postings about this study. Please note that if you interact with the study-related social media posts, such as by commenting on or reacting to the post, their privacy and/or confidentiality may be compromised. If you have any pertinent questions about your rights as a research participant, please contact the Brock University Research Ethics Officer (905-688-5550 ext. 3035, reb@brocku.ca).

If you have any questions about this study, please feel free to contact Evguenia Ignatova at ei09zl@brocku.ca or Maurice Feldman at mfeldman@brocku.ca. This study has been reviewed by and received clearance from the Brock University Research Ethics Board (#16-108).

Appendix H

Follow-Up Survey Prompt Letter

Dear _____,

Several months ago, you have received an invitation letter to participate in a province-wide anonymous and confidential survey that aims to examine the impacts of Quality Assurance Measures (QAM) for Behaviour Intervention Strategies and the subsequent Policy Directives on developmental services in Ontario.

If you have participated in the survey already and/or have distributed the survey materials within developmental services at [Agency Name], we strongly thank you for your support. If have not had the chance to participate in and/or to distribute the survey, we created a simple flyer (attached) to send to potential participants (behaviour consultants, managers/supervisors of behaviour support and direct-care services, direct-care/front-line staff). This flyer contains a link to the study website, which links to the surveys.

Your assistance and/or participation is important as the summary results can be used to help inform better staff training, organizational practices, and future legislation, ultimately helping promote better developmental services in Ontario.

If you wish to receive the results of the survey, please do not hesitate to contact me and/or any of the other investigators after the completion of the study (approximately by the end of next month).

You are also welcome to contact the investigators with any questions, concerns, and/or feedback.

Sincerely,

Maurice

Appendix I

Summary of Responses to the Ten Factor Analyzed Questions for Three Participant Groups

Item	Direct-Care	Behaviour Support Service	
	Supervisors	Behaviour Consultants	Supervisors
What is your general opinion about QAM?	<i>Mdn</i> = 4 (Mostly Satisfied) Range: 2 (Mostly Unsatisfied) – 5 (Very Satisfied)	<i>Mdn</i> = 4 (Mostly Satisfied) Range: 2 (Mostly Unsatisfied) – 5 (Very Satisfied)	<i>Mdn</i> = 4 (Mostly Satisfied) Range: 2 (Mostly Unsatisfied) – 5 (Very Satisfied)
What is the extent of your agency’s fulfillment of QAM requirements?	<i>Mdn</i> = 4 (Fully) Range: 2 (Only in a few areas) – 5 (I do not know)	<i>Mdn</i> = 4 (Fully) Range: 2 (Only in a few areas) – 5 (I do not know)	<i>Mdn</i> = 4 (Fully) Range: 2 (Only in a few areas) – 5 (I do not know)
What is your opinion of the workload associated with QAM?	<i>Mdn</i> = 3 (Neutral) Range: 1 (Not satisfied at all) – 6 (I am not familiar with QAM)	<i>Mdn</i> = 3 (Neutral) Range: 1 (Not satisfied at all) – 6 (I am not familiar with QAM)	<i>Mdn</i> = 3 (Neutral) Range: 1 (Not satisfied at all) – 6 (I am not familiar with QAM)
What is your opinion of the effectiveness of QAM?	<i>Mdn</i> = 4 (Mostly Satisfied) Range: 1 (Not satisfied at all) – 6 (I am not familiar with QAM)	<i>Mdn</i> = 4 (Mostly Satisfied) Range: 1 (Not satisfied at all) – 6 (I am not familiar with QAM)	<i>Mdn</i> = 4 (Mostly satisfied) Range: 1 (Not satisfied at all) – 6 (I am not familiar with QAM)
How would you rate the general impact of QAM on the quality of services your agency provides?	<i>Mdn</i> = 4 (Somewhat Favourable) Range: 1 (Very Unfavourable) – 6 (I do not have any pre-QAM knowledge of my agency’s services)	<i>Mdn</i> = 4 (Somewhat Favourable) Range: 1 (Very Unfavourable) – 6 (I do not have any pre-QAM knowledge of my agency’s services)	<i>Mdn</i> = 4 (Somewhat Favourable) Range: 1 (Very Unfavourable) – 6 (I do not have any pre-QAM knowledge)
How would you rate the fit between QAM and the mission of your agency?	<i>Mdn</i> = 4 (Good) Range: 1 (Very Poor) – 6 (I am not familiar with QAM)	<i>Mdn</i> = 4 (Good) Range: 1 (Very Poor) – 6 (I am not familiar with QAM)	<i>Mdn</i> = 4 (Good) Range: 1 (Very Poor) – 6 (I am not familiar with QAM)
How has QAM affected the quality of your agency’s BSP monitoring policies and procedures?	<i>Mdn</i> = 4 (Slightly Better) Range: 1 (Much Worse) – 6 (I am not familiar with QAM)	<i>Mdn</i> = 5 (Much Better) Range: 1 (Much Worse) – 7 (I do not have any pre-QAM knowledge of my agency’s policies and procedures)	<i>Mdn</i> = 4 (Slightly Better) Range: 1 (Much Worse) – 7 (I do not have any pre-QAM knowledge of my agency’s policies and procedures)
How would you rate the impact of QAM-based BSPs on staff and client behaviour?	<i>Mdn</i> = 4 (Good) Range: 1 (Very Poor) – 6 (None of the individuals at my agency have a BSP)	<i>Mdn</i> = 4 (Good) Range: 1 (Very Poor) – 5 (Excellent)	<i>Mdn</i> = 2 (Poor) Range: 1 (Very Poor) – 4 (Good)
How would you rate the clarity of QAM-based BSPs?	<i>Mdn</i> = 4 (Good) Range: 1 (Very Poor) – 6 (None of the individuals at my agency have a BSP)	<i>Mdn</i> = 4 (Good) Range: 1 (Very Poor) – 5 (Excellent)	<i>Mdn</i> = 4 (Good) Range: 2 (Poor) – 5 (Excellent)
How would you rate the amount of information included in QAM-based BSPs?	<i>Mdn</i> = 4 (Good) Range: 1 (Very Poor) – 6 (None of the individuals at my agency have a BSP)	<i>Mdn</i> = 4 (Good) Range: 1 (Very Poor) – 5 (Excellent)	<i>Mdn</i> = 4 (Good) Range: 3 (No Change) – 5 (Excellent)

Note. Non-scaled values such as “I am not familiar with QAM” were coded as 0 in the analysis.

Appendix J

Direct-Care Staff Responses to the Four General QAM Service Impact Variables

Table J1

General QAM Opinion and QAM Impact on Service Quality Ratings

Variable	Value	Response (%)
What is your general opinion about QAM?	Not satisfied at all	3%
	Mostly unsatisfied	10%
	Neutral	40%
	Mostly satisfied	28%
	Very satisfied	8%
How would you rate the general impact of QAM on the quality of services your agency provides?	I am not familiar with QAM	9%
	<i>Missing</i>	3%
	Very unfavourable	7%
	Somewhat unfavourable	8%
	No impact	9%
How would you rate the general impact of QAM on the quality of services your agency provides?	Somewhat favourable	43%
	Very favourable	13%
	I do not have any pre-QAM knowledge of my agency's services	9%
	I am not familiar with QAM	5%
	<i>Missing</i>	N/A

Table J2

Ratings of the Fit Between QAM and the Agency Mission; Extent of Agency’s Fulfillment of QAM Requirements

Variable	Median	Value	Response (%)
How would you rate the fit between QAM and the mission of your agency?	4 (Good)	Very poor	4%
		Poor	3%
		Fair	21%
		Good	38%
		Excellent	20%
		I am not familiar with QAM	9%
		<i>Missing</i>	5%
What is the extent of your agency’s fulfillment of QAM requirements?	3 (Partially)	Minimally/not at all	3%
		Only in a few areas	10%
		Partially	33%
		Fully	32%
		I do not know	17%
		<i>Missing</i>	5%

Appendix K

Summary of Principal Component Analysis Results for Ten QAM Impact Items

Survey Item	Rotated Factor Loadings	
	Service Delivery Impact	BSP Design Impact
What is your general opinion about QAM?	.56	-.27
What is the extent of your agency's fulfillment of QAM requirements?	.43	.082
What is your opinion of the workload associated with QAM?	.60	-.032
What is your opinion of the effectiveness of QAM?	.69	-.17
How would you rate the general impact of QAM on the quality of services your agency provides?	.70	-.12
How would you rate the fit between QAM and the mission of your agency?	.71	-.021
How has QAM affected the quality of your agency's BSP monitoring policies and procedures?	.62	.011
How would you rate the impact of QAM-based BSPs on staff and client behaviour?	.099	-.49
How would you rate the clarity of QAM-based BSPs?	-.080	-1.00
How would you rate the amount of information included in QAM-based BSPs?	.083	-.72
Eigenvalues	4.85	1.13
% of variance	48.48	11.31
α	.81	.72

Notes. Behaviour consultants, behavior support service supervisors, and direct-care supervisors are included, with a total sample size of 171. Factor loadings above .40 are highlighted in bold.

Appendix L

All Groups' Responses to the General QAM Opinion Question ("What is your general opinion about QAM?")

Response	<u>Direct-Care</u>		<u>Behaviour Support Service</u>	
	Supervisors	Staff	Supervisors	Behaviour Consultants
Not satisfied at all	0	3%	0	0
Mostly unsatisfied	17%	10%	8%	13%
Neutral	12%	40%	12%	18%
Mostly satisfied	44%	28%	73%	60%
Very satisfied	24%	8%	4%	10%
<i>I am not familiar with QAM</i>	2%	9%	4%	N/A

Note. Seventy-four direct-care staff, 65 direct-care supervisors, 79 behaviour consultants in BSS, and 26 BSS supervisors provided a response for this item.

Appendix M

Concern Rating Percentages and Rank Calculations for All Participant Groups

Table M1

Concern Ratings for Behaviour Consultants

Ranked Concern & Sample Size	Rating			Weighted Sum
	Slightly Concerning	Moderately Concerning	Very Concerning	
Mismatch between expectations & resources (n = 65)	22%	37%	42%	55%
Not enough QAM training (n = 63)	40%	29%	32%	48%
Resources available but not used enough (n = 58)	35%	43%	22%	47%
Not enough funding (n = 57)	35%	46%	19%	47%
BSPs hard to follow with QAM requirements (n = 55)	62%	24%	15%	38%

Table M2

Concern Ratings for Behaviour Support Supervisors

Ranked Concern & Sample Size	Rating			Weighted Sum
	Slightly Concerning	Moderately Concerning	Very Concerning	
Not enough funding (n = 22)	32%	27%	41%	52%
Mismatch between expectations & resources (n = 22)	23%	46%	32%	52%
Not enough QAM training (n = 18)	33%	50%	17%	46%
BSPs hard to follow with QAM requirements (n = 20)	50%	20%	30%	45%
Resources available but not used enough (n = 17)	59%	35%	6%	37%

Table M3

Concern Ratings for Direct-Care Staff

Ranked Concern & Sample Size	Rating			Weighted Sum
	Slightly Concerning	Moderately Concerning	Very Concerning	
Mismatch between expectations & resources (n = 51)	28%	41%	31%	51%
Not enough funding (n = 51)	31%	37%	31%	50%
Not enough QAM training (n = 53)	42%	19%	40%	49%
Resources available but not used enough (n = 49)	35%	37%	29%	48%
BSPs hard to follow with QAM requirements (n = 48)	44%	31%	25%	44%

Table M4

Concern Ratings for Direct-Care Agency Supervisors

Ranked Concern & Sample Size	Rating			Weighted % Sum
	Slightly Concerning	Moderately Concerning	Very Concerning	
Not enough funding (n = 59)	31%	37%	32%	50%
BSPs hard to follow with QAM requirements (n = 58)	29%	40%	31%	50%
Mismatch between expectations & resources (n = 60)	37%	37%	27%	48%
Not enough QAM training (n = 59)	58%	25%	17%	40%
Resources available but not used enough (n = 48)	75%	17%	8%	33%

Appendix N

Ratings of BSP Implementation Monitoring Procedures for Behaviour Support Personnel and Direct-Care Staff

Variable	Value	Group		
		Behaviour Support		Direct-Care Staff
		Supervisors	Behaviour Consultants	
How would you rate the quality of program supervisors' monitoring of BSPs and feedback for staff, compared to your behaviour support agency's monitoring recommendations?	Very ineffective	19%	11%	
	Mostly ineffective	35%	43%	
	Mostly effective	38%	34%	
	Very effective	0	1%	N/A
	<i>Missing</i>	8%	10%	
How would you rate the monitoring procedures that are in place for your implementation of BSPs?	Very poor			10%
	Poor			22%
	Fair			20%
	Good			17%
	Excellent		N/A	1%
	I have not been implementing any BSPs in my current position			16%
	<i>Missing</i>			13%

Appendix O

Crisis Management Training Opinion Ratings for Direct-Care Staff

Training Name/Brand	Rating				Weighted % Sum
	Very Unsatisfied	Unsatisfied	Satisfied	Very Satisfied	
Safe Management Group: Crisis Intervention Training System	0%	11%	68%	21%	78%
Crisis Prevention Institute (CPI): Non- Violent Crisis Intervention	10%	10%	63%	18%	72%
The Mandt System: Relational/Conceptual/Technical Level (RCT)	0%	25%	63%	13%	72%
Hy’N’Hancement Consulting Inc.: Understanding and Managing Aggressive Behaviour (UMAB)	0%	25%	75%	0%	69%
QBS Inc.: Safety-Care: Behavioural Safety Training	8%	15%	77%	0%	67%

Note. The training modules are listed in the order of weighted percentage sums, ordered from highest to lowest satisfaction proportions. Due to the rounding of percentages, differences between similar percentages may not be captured but are reflected in the rankings.

Appendix P

Crisis Management Training Opinion Ranking for Direct-Care Supervisors

Training Name/Brand	Rating				Weighted % Sum
	Very Unsatisfied	Unsatisfied	Satisfied	Very Satisfied	
Hy’N’Hancement Consulting Inc.: Understanding and Managing Aggressive Behaviour (UMAB)	0%	0%	50%	50%	88%
QBS Inc.: Safety-Care: Behavioural Safety Training	0%	0%	50%	50%	88%
The Mandt System: Relational/Conceptual/Technical Level (RCT)	0%	0%	67%	33%	83%
Safe Management Group: Crisis Intervention Training System	6%	0%	50%	44%	83%
Crisis Prevention Institute (CPI): Non- Violent Crisis Intervention	7%	7%	57%	30%	77%

Note. The training modules are listed in the order of weighted percentage sums, ordered from highest to lowest satisfaction proportions. Due to the rounding of percentages, differences between similar percentages may not be captured but are reflected in the rankings. Weighted sums for the first two trainings are a true tie and are ordered from highest to lowest number of ratings.

Appendix Q

Summary of the Evaluation of QAM Fulfillment in Direct-Care Programs across All Groups

Response	<u>Direct-Care</u>		<u>Behaviour Support Services</u>	
	Supervisors	Staff	Supervisors	Behaviour Consultants
Minimally/not at all	0	3%	0	0
Only in a few areas	2%	10%	4%	1%
Partially	6%	33%	12%	18%
Fully	92%	32%	81%	80%
<i>I do not know</i>	2%	17%	4%	2%

Appendix R

Summary of Direct-Care Personnel’s Responses about General BSP-Related QAM Fulfillment

Variable	Value	Group	
		Direct Care Supervisors	Direct-Care Staff
Do you work with any people who have a BSP?	Yes		83%
	No	N/A	11%
	<i>Missing</i>		7%
Do all people with challenging behaviours (CBs) within your program have a BSP?	Yes	50%	50%
	No	42%	33%
	I do not know	2%	12%
	No people with CBs at my agency have BSPs	4%	1%
	<i>Missing</i>	2%	12%
<i>If any people you support have a BSP: Have all the BSPs been reviewed at least twice within the past 12 months?</i>	Yes	80%	51%
	No	6%	13%
	I do not know	4%	25%
	None of the people at my agency have a BSP	6%	4%
	<i>Missing</i>	3%	7%
<i>If any people you support have a BSP: Have all these BSPs been approved by a professional?</i>	Yes	85%	68%
	No	6%	5%
	I do not know	2%	17%
	None of the people at my agency have a BSP	6%	3%
	<i>Missing</i>	2%	7%

Appendix S

Frequencies of Reported BSP Implementation Checks

Frequency	Direct-Care	
	Supervisors	Staff
Daily	11%	7%
2-3 times a week	17%	0
Weekly	15%	1%
Every two weeks	6%	0
Monthly	24%	13%
Every 2-3 months	3%	3%
Every 4-5 months	2%	5%
Twice a year or less	2%	16%
Never	0	17%
<i>Other</i>	11%	7%
<i>Non-response</i>	11%	14%

Note. Sample sizes and percentages are reported.

Appendix T

Positive and Corrective Feedback Ratings for Supervisors and Staff in Direct-Care Services

Table M1

Positive Feedback Ratings, Expressed in Sample Sizes and Percentages

Rating	Direct-Care	
	Supervisors (n = 59)	Staff (n = 31)
Very detrimental	2%	1%
Mostly detrimental	0	4%
No change	3%	8%
Mostly helpful	62%	14%
Very helpful	23%	13%

Note. Sample sizes and percentages are reported.

Table M2

Corrective Feedback Ratings, Expressed in Sample Sizes and Percentages

Rating	Direct-Care	
	Supervisors (n = 59)	Staff (n = 41)
Very detrimental	3%	1%
Mostly detrimental	2%	17%
No change	2%	0
Mostly helpful	71%	26%
Very helpful	12%	9%

Note. Sample sizes and percentages are reported.



Research Ethics Office
Tel: 905-688-5550 ext. 3035
Email: reb@brocku.ca

Social Science Research Ethics Board

Certificate of Ethics Clearance for Human Participant Research

DATE: 1/9/2017

PRINCIPAL INVESTIGATOR: FELDMAN, Maurice - Centre for Applied Disability Studies

CO-INVESTIGATOR(S): Rosemary Condillac (rcondillac@brocku.ca)

FILE: 16-108 - FELDMAN

TYPE: Masters Thesis/Project STUDENT: Evguenia Ignatova
SUPERVISOR: Maurice Feldman

TITLE: Province-Wide Survey of the Effects of Quality Assurance Measures on Services for Clients with Developmental Disabilities and Challenging Behaviours

ETHICS CLEARANCE GRANTED

Type of Clearance: NEW Expiry Date: 1/31/2018

The Brock University Social Science Research Ethics Board has reviewed the above named research proposal and considers the procedures, as described by the applicant, to conform to the University's ethical standards and the Tri-Council Policy Statement. Clearance granted from 1/9/2017 to 1/31/2018.

The Tri-Council Policy Statement requires that ongoing research be monitored by, at a minimum, an annual report. Should your project extend beyond the expiry date, you are required to submit a Renewal form before 1/31/2018. Continued clearance is contingent on timely submission of reports.

To comply with the Tri-Council Policy Statement, you must also submit a final report upon completion of your project. All report forms can be found on the Research Ethics web page at <http://www.brocku.ca/research/policies-and-forms/research-forms>.

In addition, throughout your research, you must report promptly to the REB:

- a) Changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the study;
- b) All adverse and/or unanticipated experiences or events that may have real or potential unfavourable implications for participants;
- c) New information that may adversely affect the safety of the participants or the conduct of the study;
- d) Any changes in your source of funding or new funding to a previously unfunded project.

We wish you success with your research.

Approved: 

Ann-Marie DiBiase, Chair
Social Science Research Ethics Board

Note: Brock University is accountable for the research carried out in its own jurisdiction or under its auspices and may refuse certain research even though the REB has found it ethically acceptable.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and clearance of those facilities or institutions are obtained and filed with the REB prior to the initiation of research at that site.