The Mediating Role of Psychological Needs in the Relationship between

Workplace Aggression and Employee Well-Being

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Abstract

Experiencing aggression at work is not uncommon, especially for customer service
workers (Schat, Frone, & Kelloway, 2006). A common outcome of aggression from
customers, co-workers, and supervisors is decreased well-being (Hershcovis &
Barling, 2010). Research to date has not explained the process through which
aggression impacts well-being. Drawing on Self-Determination Theory (Deci &
Ryan, 2002), I examined whether perceptions of autonomy, competence, and
relatedness mediate the relationships between aggression and employee well-being.
University students working in customer service jobs completed an online self-report
survey (N = 202). Analyses demonstrated that feelings of autonomy and competence
mediated the relationships between customer and supervisor aggression, and job-
related affective well-being. Specific sources of aggression were not found to more
strongly predict psychological needs over other sources, nor was there a stronger
association between customer aggression and relatedness for those interacting with a
higher proportion of repeat customers. Research implications and limitations are
discussed.

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Aggression and Employee Well-Being

Every job has its ups and downs. When we start a new position, we know that

there will be good days to come and that there will be bad days; we understand this

variability to be perfectly normal and we know to expect it. What we don't always

anticipate, however, is that the bad days may stem from being mistreated by others

during our work day. Unfortunately, such mistreatment happens and it's not a rare

phenomenon.

A national survey conducted in the United States by the National Center on

Addiction and Substance Abuse found that a third of respondents had experienced

verbal abuse at work (NCASA, 2000). Other studies have found a much higher

prevalence; research by Pizzino (2002) found that an astounding 69% of respondents

in a study of public employees in Canada said they had been targets of verbal

aggression in the workplace (as cited in Barling, Dupré, & Kelloway, 2009).

Research shows this aggression may be a persistent issue for some employees; a study

on workers in the United States found that 41.4% of respondents had experienced

psychological aggression at work sometime in the previous 12 months, and 13%

reported experiencing that type of aggression on a weekly basis (Schat, Frone, &

Kelloway, 2006).

Neuman and Baron (1998) define workplace aggression as a general term that

encompasses all forms of behaviour by which individuals attempt to harm others at

work or their organizations. The researchers developed a model of workplace

aggression that separates behaviours into three categories: Expressions of hostility

include negative eye contact, giving someone the silent treatment, spreading rumours

about a target, ridiculing someone's work, and delivering unfair performance

appraisals. Obstructionism consists of failing to return phone calls, showing up late

for meetings run by the target, interfering with the target's work, and refusing to

provide needed resources. Overt aggression includes threats of physical violence,

sabotaging company property, and destroying messages needed by the target. It is

clear from these examples that workplace aggression can be experienced in many

ways.

Workplace violence, defined as the "act or threat of violence, ranging from verbal

abuse to physical assaults directed toward persons at work or on duty" (NIOSH,

2016), is often included in the aggression literature and in fact there is some overlap

between the two constructs. However, violence is distinguishable from other forms of

aggression, such as verbal and psychological aggression, and therefore ought to be

considered a separate construct (Barling et al., 2009). The frequency of workplace

violence is lower than that of psychological aggression and studies often report results

of both separately (e.g., Barling, Rogers, & Kelloway, 2001; Schat et al., 2006;

Spector, Coulter, Stockwell, & Matz, 2007). Due to the differing nature of violence

and its lower incidence rate, it is not included as a variable of interest in this research.

Numerous negative outcomes have been reported by individuals who experience

aggression in their workplace, such as job dissatisfaction (Budd, Arvey, & Lawless,

1996; Hershcovis et al., 2007; Hills & Joyce, 2014; Pseekos, Bullock-Yowell, &

Dahlen, 2011; Yang & Caughlin, 2016; Yragui, Demsky, Hammer, Van Dyck, &

Neradilek, 2017; Zhou, Yang, & Spector, 2015), lower affective commitment (Barling

et al., 2001; Dupré, Dawe & Barling, 2014; LeBlanc & Kelloway, 2002), higher

turnover intentions (Chang & Lyons, 2012; Dupré et al., 2014; LeBlanc & Kelloway,

2002; Yang & Caughlin, 2016; Yragui et al., 2017), decreased job performance (Barling et al., 2001; Schat & Frone, 2011), decreased productivity (Budd et al., 1996), burnout (Trépanier, Fernet, & Austin, 2014), increased physical injury (Zhou et al., 2015), and higher levels of stress (Chang & Lyons, 2012; Grandey & Dickter, 2004). Thus, workplace aggression affects both the health of individual workers as well as the health of the organization.

One outcome which is commonly reported by people who are subjected to these destructive aggressive behaviours is reduced well-being. Workplace aggression has been found to predict both physical and psychological indicators of well-being (Barling, 1996; Bowling & Beehr, 2006; Dupré et al., 2014; Hills & Joyce, 2014; Kelloway, Barling, & Hurrell, 2006; Niedhammer et al., 2008; Rospenda et al., 2005; Yang & Caughlin, 2016; Yragui et al., 2017; Zhou et al., 2015). Physical symptoms may include elevated blood pressure, sweating, and feeling jittery (Fisk & Neville, 2011), while psychological effects may present as burnout and emotional exhaustion (Ben-Zur & Yagil, 2005). These studies demonstrate that well-being as an outcome is imperative to research as fluctuations in the construct affect both individuals and organizations (e.g., decreased job performance; Barling et al., 2001; Schat & Frone, 2011).

Many studies have examined the outcomes of aggression in the workplace, yet there is a paucity of research on *how* aggression leads to these outcomes. The purpose of this study is to begin to fill this void in the literature by utilizing a theory-driven approach to examine variables that mediate the relationship between workplace aggression and employee well-being. I examine three different sources of workplace aggression, as research has found that workers may respond differently to aggressive

acts depending on who is the perpetrator (Hershcovis & Barling, 2010; LeBlanc & Kelloway, 2002; Yragui et al., 2017). Using Self Determination Theory (SDT; Deci & Ryan, 2002), the current research examines whether feelings of autonomy, competence, and relatedness mediate the relationships between customer, co-worker, and supervisor aggression, and employee well-being. This study focuses on employees in the customer service sector in order to capture the effects of all three sources of aggression.

Aggression in the Customer Service Industry

The service sector has grown over the past several decades to become the largest employment sector (International Labour Organization, 2017; Statistics Canada, 2017; U.S. Bureau of Labor Statistics, 2016; Zeithami & Bitner, 2000). According to the U.S. Bureau of Labor Statistics (2016), an astounding 80.3% of workers are employed in some type of service occupation. Digging even deeper, more than 20% of workers are employed in the retail or hospitality industry; that translates into more than 31 million people in the United States alone. Canadian labour force characteristics are similar; Statistics Canada reports that in 2017, 79% of all working Canadians were working in the service industry, which translates into 14.5 million people.

While workplace aggression can be seen in occupations across all industries, research shows that service workers report experiencing psychological aggression more than workers in other areas, such as in professional occupations (Schat et al., 2006). In one such study, 82% of front-line employees in hotels, restaurants, and bars said they had either witnessed or experienced customer verbal aggression in that year (Harris & Reynolds 2003). Another study on public transport workers found that 90%

of those surveyed reported incidents of verbal abuse by customers (Merecz, Drabek, & Moscicka, 2009).

Service workers in call centres have received a lot of attention in research examining workplace aggression. Research shows these workers often suffer from burnout and emotional exhaustion (Ashill & Rod, 2011; Choi, Cheong, & Feinberg, 2012). Inbound call centre agents frequently have to field customer complaints, which often means dealing with agitated customers and being subjected to instances of verbal aggression from the callers (Aksin, Armony, & Mehrotra, 2007; Rod & Ashill, 2013). Grandey, Dickter, and Sin (2004) reported that call centre employees received an average of seven hostile calls every day from customers, demonstrating the persistent stress these types of workers must face. Other well-researched occupations include those in the hospitality industry and in air transportation, as workers in these fields are also often exposed to difficult customers (Boyd, 2002; Harris & Reynolds, 2003; Dudenhoffer & Dormann, 2015; Kao, Cheng, Kuo, & Huang, 2014; Karatepe, Yorganci, & Haktanir, 2009).

Sources of Workplace Aggression

Supervisors. While we would hope that managers and leaders would be unlikely to act aggressively towards employees, research shows that that is unfortunately not the case. In one study, 13.5% of wage and salary workers in the United States reported that they had experienced aggression from their supervisors (Schat et al., 2006). In another study examining bullying in the workplace, defined as "repeated and persistent negative acts towards one or more individual(s), which involve a perceived power imbalance and create a hostile work environment" (Salin, 2003, p. 1214), Namie (2000) found that 81% of bullies were individuals in supervisory roles.

An astounding 83.7% of respondents in a study by Aasland and colleagues (2010) reported exposure to some kind of destructive leadership behaviours, while 33.5% of the sample said they had been exposed to these behaviours "quite often" or "very often or nearly always" in the previous six months. From yelling, ridiculing, and name-calling, to withholding information and threatening employees with job loss or pay cuts, supervisor aggression can be expressed in a number of ways (Tepper, 2000). Aggressors who have more power and are of a higher status than their victims, however, do tend to use indirect acts of aggression more often than direct acts, such as discrediting and undermining their employee's work (Bjorkqvist, Osterman, & Lagerspetz, 1994; Lee & Brotheridge, 2010).

Individuals subjected to the above-mentioned behaviours from their supervisors may begin to believe they are not valued in the company, which may contribute to a perceived lack of job security (Megeirhi et al., 2018). Whether being aggressive in specific contexts, such as when giving feedback, or engaging in general abusive or destructive behaviours towards employees, negative behaviours by supervisors contribute to a decrease in employee performance (Gerstner & Day, 1997; Mackey, Frieder, Brees, & Martinko, 2017; Schyns & Schilling, 2013). Looking specifically at the customer service industry, studies have shown that service performance suffers when employees are exposed to abusive supervision (Jian, Kwan, Qiu, Liu, & Yim, 2012; Lyu et al., 2015), which is defined as a sustained demonstration of hostile verbal and nonverbal behaviours by a supervisor towards an employee (Tepper, 2000). Similar to experiences of aggression from other sources, past studies have shown that aggressive acts coming from supervisors are related to decreased health in employees (Hershcovis & Barling, 2010; LeBlanc & Barling, 2004; Schat &

Kelloway, 2005). Research has found that individuals exposed to abusive or destructive supervision were more likely to experience a decline in psychological health (Lin, Wang, & Chen, 2013) and an increase in stress, burnout, and emotional exhaustion (Harms, Credé, Tynan, Leon, & Jeung, 2017; Schyns & Schilling, 2013; Wu & Hu, 2009; Zellar, Tepper, & Duffy, 2002; Zhang & Liao, 2015), highlighting the negative psychological effects of aggression from this powerful source.

Co-workers. According to the Bureau of Labor Statistics (2018), the average American works 34.5 hours per week. Canadians work slightly longer weeks at 36.4 hours (Statistics Canada, 2018). It is easy to imagine how distressing it would be to spend that amount of time working alongside an aggressive co-worker. While aggressive acts between co-workers may include physical violence, more common overt acts of aggression include verbal abuse and belittlement (Brotheridge & Lee, 2010; Hershcovis & Barling, 2010). Different studies have found varying accounts of the prevalence of co-worker aggression: In one study, 15% of workers indicated they had suffered through aggressive behaviours from their co-workers (Schat et al., 2006), and in another study, 90% of participants reported having been exposed to aggression from a colleague (Yragui et al., 2017). An incredible 97.2% of respondents in a study by Park, Bjorkelo, and Blenkinsopp (2018) reported having been ignored or excluded by colleagues at least one to three times in the previous six months, and 93.7% of the sample reported co-workers had spread gossip and rumors about them.

Employees who experience aggressive behaviours from their colleagues are affected professionally and personally. In a study by Budin, Brewer, Chao, and Kovner (2013), nurses who reported higher levels of verbal abuse from their colleagues had lower job satisfaction, less organizational commitment, and higher

turnover intentions. Aggression from co-workers has been found to predict emotional

well-being and psychosomatic symptoms, such as headaches, and may result in

depression, anxiety, and gastro-intestinal problems (Bowling & Beehr 2006;

Hershcovis & Barling 2010; LeBlanc & Kelloway, 2002; Schat & Kelloway, 2000).

Exposure to co-worker aggression has also been tied to employee exhaustion and

contributes to the development of a cynical personality for individuals exposed to this

mistreatment (Yragui et al., 2017). Longitudinal studies have been able to support a

causal relationship between co-worker aggression and negative health and work

outcomes, providing further support for the detrimental effects aggressive colleagues

have on their co-workers (De Raeve et al., 2008).

    Customers. Interacting with and providing service to customers is a large part

of customer service workers' roles, as the name of the industry implies. As

previously mentioned, this type of aggression is rampant in certain service

occupations, such as in call centre jobs (Grandey et al., 2004; Harris & Reynolds

2003; Merecz et al., 2009). In their study, Schat and colleagues (2006) found that

23.4% of workers had experienced aggression from members of the public. The most

common way customers exhibit hostility towards service workers is through verbal

aggression, such as swearing and yelling (Barling et al., 2009; Glomb, 2002).

    Customer aggression has been found to have many negative effects on the

employees who are on the receiving end of these damaging behaviours. It impairs

cognitive task performance and impacts outcomes such as absenteeism, burnout,

turnover, and job satisfaction (Ben-Zur & Yagil, 2005; Dormann & Zapf, 2004;

Dudenhoffer & Dormann, 2015; Fisk & Neville, 2011; Karatepe et al., 2009; Kashif,

Zarkada, & Thurasamy, 2017; Rafaeli et al., 2012). A plethora of studies have found

a relationship between aggressive customer behaviours and employee well-being (e.g., Molino et al., 2015; Rupp & Spencer, 2006; Wang et al., 2011; Wegge et al., 2007). Emotional exhaustion is a common outcome of experiences of customer aggression (Dudenhoffer & Dormann, 2015; Karatepe et al., 2009; Kashif et al., 2017), which puts service workers at a high risk of experiencing health issues, as exhaustion is predictive of stress-related health outcomes (Maslach, Schaufeli, & Leiter, 2001). It is clear from the above-mentioned literature that customer service workers are frequently exposed to damaging behaviours by members of the public, leading to a decrease in general and job-related well-being.

Overall, there is no shortage of research to support the links between multi-source workplace aggression and employee well-being. The question that remains is *why* these effects occur. As workplace aggression and employee well-being are complex constructs, it hardly seems satisfactory to accept the correlation without attempting to uncover the potential indirect effects that explain the relationship. The next section of this paper presents a lens through which I will try to explain the nuanced ties of workplace aggression to employee well-being, that of Self-Determination Theory (SDT; Deci & Ryan, 2002).

Self Determination Theory (SDT)

SDT posits that human motivation can be placed along a continuum from a complete lack of motivation to inherently autonomous motivation (Gagné & Deci, 2005). Individuals on the latter end of the spectrum are said to be intrinsically motivated; they perform an activity because they find it interesting and receive satisfaction from doing so. This desirable type of motivation leads to positive outcomes such as improved job performance, increased employee commitment, less

turnover intentions, and lower instances of burnout (Baard, Deci, & Ryan, 2004; Kuvaas et al., 2017). Three psychological needs must be satisfied for the natural process of intrinsic motivation to function optimally: the needs for autonomy, relatedness, and competence.

In a study examining the psychological needs central to SDT, Reis and colleagues (2000) found that they were able to predict well-being from an individual's ability to satisfy each of the three basic needs. Another study which examined this phenomenon in the workplace found a positive relationship between the degree of need satisfaction and well-being on the job (Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva, 2001). Based on these findings, one would expect to find that the extent to which each of the three basic psychological needs are satisfied in the workplace will predict not only motivation, but also the outcome of employee well-being. Just as certain factors in the work environment may promote the fulfillment of the basic needs (Deci & Ryan, 1985), others may also act to prevent the satisfaction of these needs. This active blocking of the fulfillment of one's needs is referred to as need frustration (Deci & Ryan, 1985), where barriers stand in the way of individuals being able to achieve the desired outcomes associated with need realization. One such barrier may be the experience of workplace aggression. Indeed, studies have found that workplace bullying frustrates all three psychological needs of SDT, leading to impaired psychological functioning and lowered work engagement, and predicting higher levels of burnout even a year after the bullying occurred (Trépanier, Fernet, & Austin, 2013, 2015, 2016).

Autonomy. In SDT, autonomy refers to an individual having the experience of choice, or an internal perceived locus of causality where individuals believe their

behaviour is self-determined (Gagné & Deci, 2005; Ryan & Deci, 2000). Organizational examples of leader actions that may help fulfill this psychological need include allowing employees to set deadlines for projects, permitting them to determine which duties they would like to complete in a workday, and letting workers choose their own work hours. Research has shown that individuals who report greater fulfillment of their need for autonomy both inside and outside of work also report higher levels of well-being than those who do not feel their need for autonomy is being satisfied (e.g., Baard et al., 2004; Reis et al., 2000; Stiglbauer & Kovacs, 2017; Thompson & Prottas, 2005; Wheatley, 2017). This may be due in part to their increased ability to cope with stressful events (Hobfoll, 1989; Pearson & Moomaw, 2005; Spreitzer et al., 1997).

Each source of workplace aggression may negatively affect employees' perceptions of autonomy. For example, supervisors are typically charged with the task of delegating responsibilities to workers and holding them to task. In this regard, employees may feel they have no choice but to do what they are told thus reducing their feelings of autonomy. However, studies have shown that employees may experience less adverse effects if they accept the unequal distribution of power between them and their supervisor, as opposed to employees who have a difficult time accepting the power differential between themselves and their supervisor (Lin et al., 2013). It is this acceptance of a power imbalance that may prevent an employee's need for autonomy from decreasing more from supervisor aggression than from other sources, such as customers.

A common social norm in the workplace is for employees to hold back and minimize the anger they display towards organizational insiders (Diefendorff,

Richard, & Croyle, 2006; Rafaeli, Grandey, Ravid, & Wirtz, 2006). When co-workers and supervisors become verbally abusive, employees may not be able to react to this aggression exactly the way they would like, which may affect their feelings of autonomy. However, due to their professional relationship and familiarity with the offending party they are able to display at least a small degree of emotion (Averill, 1983). This freedom of expression, although minimal, may help protect an employee's sense of autonomy when dealing with aggressive supervisors and co-workers.

When dealing with organizational outsiders (i.e., customers), however, employees may not be afforded the same freedom to express their true emotions as they have in interactions with organizational insiders. Individuals who work in customer service roles are expected to manage their emotions to be in line with emotional display rules by enhancing, faking, or suppressing their outward expressions (termed emotional labour; Grandey, 2000). While customers are free to express their emotions, such as anger, employees must suppress the negative emotions they may feel toward the customer (Rafaeil et al., 2006). Indeed, a job requirement for many service representatives is to be positive in their expression (Diefendorff et al., 2006). Mirchandani (2012) found that call centre workers were required not only to listen to aggressive customers, but to do what they could to mollify them. Even when they were subjected to racist comments by customers, workers were not to defend themselves but instead were encouraged to apologize; this reaction to abuse is counter-intuitive and is less likely to be expected in aggressive encounters with supervisors or co-workers and may contribute to added stress at work. Job autonomy, on the other hand, was found to have a negative relationship with stress caused by

customer aggression; call centre employees felt less stress in handling aggressive callers when they felt they had freedom over their work tasks (Grandey & Dickter, 2004).

A study by Grandey and colleagues (2004) found that if customer service workers engage in emotional regulation using what is called deep acting, which is changing their perspective by trying to see things from the customer's point of view, they may not experience the negative effects of customer aggression as profoundly. If the service worker instead uses surface acting, which is simply suppressing their true emotions, they are more likely to experience negative outcomes in customer aggression incidents. A more recent study by Gabriel, Daniels, Diefendorff, and Greguras (2015) identified five different emotional labour profiles (non-actors, low actors, surface actors, deep actors, and regulators), and analyses confirmed that high levels of surface acting (i.e., for surface actors and regulators) resulted in significantly worse well-being outcomes.

In general, customer aggression may have a large impact on workers' felt autonomy due to the workers' inability to express their true emotions when faced with aggressive behaviours from customers. This may become much more obvious in environments where organizations enforce a policy of "the customer is always right". Customers also have most of the control over the future of their relationship with an employee, as they can choose whether they will return and engage in another interaction with the employee (Grandey, Kern, & Frone, 2007). Service workers must then not only fake positive emotions when dealing with an abusive customer, they also have no control over how often interactions with that customer will occur. For these reasons, it seems likely that the largest impact on an employee's sense of

autonomy appears to come from aggressive conduct from organizational outsiders, or customers.

> *Hypothesis 1a:* Perceptions of autonomy will mediate the relationship between employee well-being and all sources of workplace aggression (i.e., customer, supervisor, co-worker).
>
> *Hypothesis 1b:* Experiences of customer aggression will more strongly predict perceptions of autonomy than experiences of co-worker and supervisor aggression.

Relatedness. SDT's nutriment of relatedness refers to the need of an individual to be connected to others and to be effective in the social world (Gagné & Deci, 2005). It is possible for supervisor aggression to have an effect on an employee's sense of belonging. When a supervisor treats an employee fairly, the worker develops a sense of belonging to the work group (Smith, Tyler, & Huo, 2003). When treating an employee unfairly, which may likely be the case when acting aggressively, the employee may perceive this as a message that he or she does not belong.

Customer aggression may also affect an employee's sense of relatedness. A study by Sandstrom and Dunn (2013) found that participants felt an increased sense of belonging even after engaging in social interactions with strangers, highlighting that belongingness is not only affected by individuals with whom we are closely connected. A study by Holmvall and Sidhu (2007) found a link between being relationship-oriented and feeling negative effects from customer injustice, showing that some employees feel the need to belong, even with customers. While many service relationships are one-time encounters that are either anonymous or uni-directional (e.g., while the customer knows the cashier by name because of his

nametag, the employee does not know anything about the customer; Gutek, Bhappu, Liao-Troth, & Cherry, 1999), some involve repeat customers. These repeat encounters will develop into relationships over time, and this type of customer will become less of an "outsider" (Gutek et al., 2000). Due to this unique relationship, aggression from repeat customers may affect feelings of belonging in employees to a greater degree than encounter-based service interactions.

The majority of existing research, unsurprisingly, focuses on co-worker aggression when considering constructs similar to relatedness. For example, a study found that employees, regardless of whether they experienced or witnessed negative behaviours by co-workers, felt insecure and isolated (Burnes & Pope, 2007). Hershcovis and Barling (2010) posit that employees who experience aggression from co-workers receive the message that they do not belong to the work group, and this may cause feelings of isolation (Merecz et al., 2009). Moreover, employees who receive aggressive treatment from a supervisor may take out their frustrations on a safer target such as a co-worker (Ripley & Ripley 1992), and this may cause a rift between co-workers and contribute to lowered feelings of relatedness. Over 50% of employees report that they have experienced social isolation in their job tenure (Fox & Stallworth, 2005).

Social identity theory states that individuals classify themselves and the people around them into different social categories (Ashforth & Mael, 1989). Certain factors may affect how much an individual identifies with a group, such as similarity, proximity, shared goals, and common history (Ashforth & Mael, 1989). Due to the dissimilar nature of supervisors' roles to those of service workers, employees may not feel as though they belong to the same social category. Customers may also not be

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seen as belonging to the same social category as employees as they do not share the

same history or goals with the workers as would other organizational insiders. Co-

workers in an organization who work in close proximity to each other and have

similar job duties will likely consider themselves part of the same social category.

Because of the nature of this type of relationship, when a co-worker acts aggressively

toward their colleague their behaviour may trigger feelings of social isolation in their

targets (Baumeister & Leary, 1995). This isolation threatens victims' sense of self

and affects their interpersonal interactions, similarity, and shared goals, which may

contribute to decreased feelings of belonging.

Rejection reflects feeling devalued by or excluded from a desired relationship,

person, or group (MacDonald & Leary, 2005). A study by Penhaligon, Louis, and

Restubog (2013) found that one's perceptions of being rejected by their work peers

explained the relationship between work group mistreatment and depression and

organizational-based self-esteem. Another study by Hitlan (2006) and colleagues

demonstrated that feelings of being rejected by one's co-workers led to decreased

organizational commitment. Employees' experiences of exclusion by their co-

workers is also related to a decrease in task performance at work (Balliet & Ferris,

2013; Wu, Wei, & Hui, 2011). These studies show that being rejected by co-workers

have negative effects on an employee. Research has also found that inclusion by an

ingroup fulfills one's belongingness more than inclusion from an outgroup, and being

excluded from an ingroup feels worse than being excluded from an outgroup

(Bernstein, Sacco, Young, Hugenberg, & Cook, 2010). Based on these findings and

applying them to the current research, I would expect to obtain similar results with

employees' perceptions of belonging being affected to a greater degree by co-worker aggression than by customer and supervisor aggression.

Hypothesis 2a: Perceptions of relatedness will mediate the relationship between employee well-being and all sources of workplace aggression (supervisor, co-worker, customer).

Hypothesis 2b: Experiences of co-worker aggression will more strongly predict perceptions of relatedness than experiences of customer and supervisor aggression.

Hypothesis 2c: Customer aggression will more strongly predict feelings of relatedness for employees who interact with a higher proportion of repeat customers.

Competence. The third and final nutriment in SDT states that individuals need to feel competent in the work they do in order to remain intrinsically motivated in their occupation and experience well-being (Gagné & Deci, 2005). Some studies have found ties between different sources of aggression and an employee's perceptions of competence at work. Mirchandani (2012) found that customer aggression diminished workers' abilities to conduct their work tasks, and workers were therefore unable to meet customer needs; as a service worker's role is to assist customers with their needs, the inability to do so may affect their feelings of competence in their role. Burnes and Pope (2007) found that workers who were subject or witness to aggression by co-workers experienced feelings of worthlessness. Although there is a paucity of research on the effects of workplace aggression on an employee's feelings of competence, these studies show that co-workers and customers

may have the power to negatively affect an employee's sense of worth in the workplace.

Supervisor aggression may be particularly likely to affect a worker's feeling of competence. Hershcovis and Barling (2010) posit that supervisor aggression may contribute to job insecurity, and in turn this may lead to lower levels of self-efficacy. Supervisors may also become aggressive when providing feedback to an employee about their task performance; this is known as destructive criticism (Baron, 1988). This type of feedback can be sarcastic, can include threats, is not specific, nor is it helpful. Exposure to this type of criticism may also have a negative effect on an employee's feelings of self-efficacy, and may undermine his confidence in his ability to perform the tasks he is being criticized for (Baron, 1988).

A study conducted by Xu and colleagues (2012) found abusive supervision to be significantly and negatively related to task performance. If the supervisor continues to be abusive and poor performance by the worker persists, the employee may in time begin to feel as though she is less capable of performing her job duties, and her sense of competence may be compromised. Studies conducted specifically in the service industry have also found that abusive supervisor behaviour negatively predicts service performance (Hon & Lu, 2016; Jian et al., 2011), which again may affect a service worker's sense of competence as they perform more poorly in these aggressive environments.

Research by Park and colleagues (2018) found that a large proportion of their sample experienced aggressive behaviours perpetrated by supervisors: 87.5% reported their supervisor excessively monitored their work, 86.1% said supervisors withheld information that affected their job performance, 77.8% were humiliated or ridiculed

about their work, 84.7% were repeatedly reminded about errors or mistakes they had made, and 72.2% were ordered to do work below their level of competence. All of these behaviours may easily contribute to lowered feelings of competence.

Research has also shown that abusive supervision can negatively affect state self-esteem (Burton & Hoobler, 2006), which refers to temporary changes in one's belief in their abilities in response to a stimulus (Heatherton & Polivy, 1991). Further studies have found that experiencing abuse from supervisors affects an employee's general sense of self-esteem and depletes their ego (Ferris, Spence, Brown, & Heller, 2012; Thau & Mitchell, 2010), thus likely negatively affecting their perceptions of their own competence.

As noted earlier, supervisors have much more control over an employee's work than do co-workers and customers. They have the ability to dictate the tasks an employee must carry out. An aggressive or abusive supervisor may create work overload or underload for an employee, and this in turn can lower the employee's self-esteem (Glowinkowski & Cooper, 1986). Indeed, studies have found positive correlations between job performance and competence, self-esteem, and self-efficacy (e.g., Abbas, Raja, Anjum, & Bouckenooghe, 2018; Brien, Hass, & Savoie, 2012; Ceschi, Demerouti, Sartori, & Weller, 2017; Ellis, Ganzach, Castle, & Sekely, 2010). Research by Hershcovis and Barling (2010) shows that an employee's job performance is affected most strongly by supervisor aggression over aggression by co-workers and outsiders, such as customers. Given these findings in the existing literature, it is therefore hypothesized that supervisor aggression will exert a greater influence on participants' feelings of competence, relative to other sources of aggression.

Hypothesis 3a: Perceptions of competence will mediate the relationship between employee well-being and all sources of workplace aggression (supervisor, co-worker, customer).

Hypothesis 3b: Experiences of supervisor aggression will more strongly predict perceptions of competence than experiences of co-worker and customer aggression.

Current Study

In this thesis, I sought to explain the relationship between three different sources of workplace aggression and employee well-being through the mediating role of psychological need fulfillment found in SDT (Deci & Ryan, 2002). It is important to attempt to explain the links between aggression and well-being so as to provide insight into the design of interventions to effectively mitigate the effects of workplace mistreatment. Hershcovis and Barling (2010) present a strong case for isolating different sources when researching workplace aggression: As outcomes and mediators may vary depending on the specific perpetrator of the aggressive act, isolating the effects of specific sources of workplace aggression is paramount. Not doing so would encourage the false assumption that all aggressions are equal, which existing research suggests is not the case (Chang & Lyons, 2012; Hershcovis & Barling, 2010).

I examine separate levels of well-being outcomes to examine potential difference in the effects of multi-source aggression. It may seem intuitive that an employee's well-being at work may suffer when exposed to aggressive incidents in the workplace, and research does support this assertion; studies have shown that respondents who report higher incidents of aggression also report greater feelings of

stress at work (Harms et al., 2017; Zhang & Liao, 2015). These negative emotions may also carry over into an employee's life outside of work. Anxiety and depression has been found to be associated with mistreatment in the workplace (Hershcovis & Barling 2010; LeBlanc & Kelloway, 2002), demonstrating that long-term effects may arise from situational aggression. Limiting research to assessing well-being at work may miss out on a more widespread effect on the global health of the employee. As such, in addition to assessing affective well-being at work, I also assess general well-being as an outcome variable. Doing so will allow for a more complete picture of how different sources of workplace aggression influence the well-being of employees through the mediating psychological needs of SDT (Deci & Ryan, 2002).

Method

Participants

Two hundred and forty-four individuals participated in this study. After removing problematic cases, the sample size was 207[1]. Recruited from a medium-sized Canadian university, 81.6% of the sample were female. The large majority of participants identified as White (81.6%), with the remainder of the sample identifying with other ethnicities. Ages of participants ranged from 18 to 46, with a mean of 21.64 years ($SD = 3.77$). Participants, on average, held their current job for over two years ($M = 27.8$ months, $SD = 30.2$), and tenure ranged from 3 to 300 months. In the sample, 94.7% of participants were working part-time with the remainder of the sample being employed in a full-time job. Fifty-four percent of respondents indicated they worked in retail, 25.1% were employed in the food and beverage industry, and the rest of the sample were employed in other service industries, such as in call centres and hotels. When asked how they primarily dealt with customers in their jobs,

95.7% said they mostly interact face-to-face, 2.4% said over the phone, and the

remainder either communicate with customers primarily via email or via a mix of the

above. Respondents indicated they spent anywhere from 20% to 100% of their time

at work interacting with customers ($M = 84.9$, $SD = 16.46$). In the sample, 97.6% of

respondents indicated they dealt with repeat customers. The average percent of repeat

customers for the sample was 37.18 ($SD = 28.23$).

Procedure

All participants were recruited through the university's online research

participation system, SONA. The system permitted researchers to post information

about their studies and allowed students to sign up for those in which they were

interested in participating. To meet the eligibility criteria for this study, participants

were required to be over the age of 18 and working a minimum of two shifts per week

specifically in a customer service industry job (e.g., cashier in a store, server in a

restaurant). This minimum shift requirement was included to increase the likelihood

that respondents would have interacted with all the groups of interest to this study

(i.e., customers, co-workers, supervisors). Participants were required to have been

working at the same job for a minimum of three months, as that was the time frame

for many of the scales in the survey.

Students signed up to participate in a two-part study; only part one is

discussed in this paper as it is the only part relevant to this thesis. Participants were

emailed an invitation to the study within 48 hours of signing up online. Each email

invitation included a link to an online survey hosted by Qualtrics as well as a unique

participant code. Providing participants with a code allowed for their survey

responses to be kept separate from any identifying information, while still allowing

for participant tracking to ensure they were compensated for their time. It also allowed participants' data to be linked to time 2 of the study. Tracking participants' names also ensured that participants did not take part in the study more than once, as data collection spanned over several academic semesters. A master list linking participants' codes with their email addresses was kept separately from collected responses. Email addresses of new sign-ups were cross-referenced against the list to ensure survey invitations were not sent to individuals who had previously taken part in the study.

Respondents could complete the survey at any time and from any electronic device that was most convenient for them. When they followed the link that was sent to them in their email invitation, participants were directed to a consent form and were required to provide their consent before gaining access to the survey. After respondents entered their participant code, they received instructions about the survey. Participants were asked to respond to questions based on their experiences over the past three months, and if they were employed in more than one job they were instructed to respond to all questions based on only one of their jobs. The scales were carefully ordered when designing the survey; participants first responded to the measures of well-being, then the mediator measures of autonomy, relatedness, and competence, followed by the measures of workplace aggression. This order of items was designed to ensure recollection of aggressive incidents at work did not prime respondents to respond in particular ways to the mediator and outcome items.

Respondents of the survey were compensated for their time by receiving bonus points via the university's SONA system, which they could use towards their final grades in participating psychology courses. During the first three semesters of

data collection, participants could obtain up to one bonus point for completing the survey. After recognizing that some respondents may have been rushing through the items, the compensation structure was modified to give respondents .25 points for every 15 minutes they took to complete the survey, up to a maximum of 1 point[2].

Measures

Workplace aggression. Items from two different scales were used to measure aggression in the workplace. Fifteen items from Glomb's 18-item Specific Aggressive Incident Scale (SAIS; 2002) were used. Three items from the scale were omitted as they measured violent acts (e.g., physical assault) as opposed to psychological aggression. To ensure all aspects of workplace aggression were measured, 3 out of the 10 items from Aquino and Bradfield's Perceived Victimization scale (2000) were used to supplement the SAIS. Respondents were instructed to indicate the frequency with which they experienced aggressive acts during the previous three months, on a scale from 1 (Never) to 5 (Most of the time). Participants were asked to respond to the 18 items three times: Once responding about the frequency of customer aggression, once about co-worker aggression, and once about supervisor aggression. Example items include [how often have customers/co-workers/supervisors] "sworn at you?", "yelled or raised their voice at you?", and "insulted or criticized you (including sarcasm)?"

Psychological needs. The three psychological needs at the core of Self-Determination Theory were measured using the multi-factor Basic Need Satisfaction at Work Scale (Deci et al., 2001; Ilardi, Leone, Kasser, & Ryan, 1993; Kasser, Davey, & Ryan, 1992). Participants were instructed to indicate their level of agreement with seven items measuring autonomy, six items measuring competence, and eight items

measuring relatedness on a scale from 1 (Strongly Disagree) to 7 (Strongly Agree). A sample item for autonomy was "When I am at work, I have to do what I am told", an example of a relatedness item was "I get along with people at work", and a sample item measuring competence was "I do not feel very competent when I am at work".

Employee well-being. Two scales were used to measure this study's outcome variable. General well-being was assessed using the K-10 (Kessler et al., 2003). Participants were asked to respond to the items on a frequency scale from 1 (None of the time) to 5 (All of the time). An example of an item from the K-10 is "During the past three months, how often did you feel tired out for no good reason?". Well-being at work was measured using the 20-item Job-Related Affective Well-Being Scale (JAWS; Katwyk, Fox, Spector, & Kelloway, 1999). Participants were instructed to respond to the items using a frequency scale from 1 (Never) to 5 (Extremely Often or Always). The lead in for the scale asked participants to indicate the amount that any part of their job (e.g., the work, co-workers, supervisor, customers, pay) has made them feel that emotion in the past three months. The JAWS is broken down into four subscales: High pleasurable-High arousal (HPHA) includes items about being energetic and enthusiastic (e.g., "My job made me feel excited"), High pleasurable-Low arousal (HPLA) items refer to feeling at ease, calm, and relaxed (e.g., "My job made me feel content"), Low pleasurable-High arousal (LPHA) items are characterized by feelings such as anger, anxiety, and disgust (e.g., "My job made me feel anxious"), and Low pleasurable-Low arousal (LPLA) includes items about feeling bored, discouraged, and gloomy (e.g., "My job made me feel depressed").

Results

Data Cleaning and Screening

Data was screened and cleaned prior to conducting analyses to test my

hypotheses. Where relevant, items were reverse coded in the scales to ensure that

higher values reflected a greater amount of the construct being measured. The JAWS

scale was split into two subscales, as per the authors' instructions as one means of

considering well-being (Katwyk et al., 1999). The two subscales that were created

were job-related positive affect and job-related negative affect. Previous studies using

the JAWS have found that positive and negative emotions are affected by different

predictors (e.g., Barclay & Kiefer, 2014; Miles, Borman, Spector, & Fox, 2002;

Machin & Hoare, 2008), providing support to the importance of examining the two

types of affect separately.

Before beginning analyses of the data, assumptions were checked as per

Tabachnick and Fidell (2001). Allowing for approximately 10% of missing values

per scale, participants who did not respond to the minimum number of the items were

excluded from the study. Univariate outliers were flagged if scale scores were more

than 3.29 standard deviations above the mean. Eight univariate outliers were found:

one outlier for customer aggression ($M = 4.11$), four for supervisor aggression ($M =$

3.83, $M = 3.56$, $M = 3.17$, $M = 3.11$) and three for co-worker aggression ($M = 3.50$, M

$= 3.06$, $M = 3.06$). Outliers were Winsorized to bring the data down to the maximum

acceptable value (customer aggression $M = 4.03$, supervisor aggression $M = 3.10$, co-

worker aggression $M = 3.00$). Multivariate outliers were identified and were flagged

for exclusion from the analyses. Mahalanobis distances were calculated and

compared against a critical chi square value of 27.87, given there were nine scales

included in the calculations ($df = 9$). Five cases were flagged for removal, resulting in a final sample of 202 for the analyses.

Linearity was tested to see if there was a linear relationship between the independent and dependent variables. To examine this, I plotted residuals against predicted values in a series of regressions: Independent variables predicting dependent variables, independent variables predicting mediating variables, mediating variables predicting dependent variables, and independent and mediating variables predicting dependent variables. A Loess curve was added to all scatterplots, and as they all centered close to zero along the length of all X-axes the assumption of linearity was met.

Homoscedasticity was checked to ensure estimation errors were relatively equal across all predicted Y values using the same scatterplots as defined above. I examined the data points to see if they were consistent in their vertical range across the X-axis, which they were. The assumption of homoscedasticity was therefore not violated.

Multicolinearity was checked to ensure independent and mediator variables were not redundant. A regression was run for each of the three dependent variables. Variance Inflation Factors (VIFs) were calculated in each of the regressions and were checked to ensure no values were above 10 which would have indicated the assumption had been violated. All values were well below the cut-off (customer aggression VIF = 1.40, co-worker aggression VIF = 2.02, supervisor aggression VIF = 1.94, autonomy VIF = 2.72, relatedness VIF = 2.22, competence VIF = 2.42), therefore the assumption was not violated.

Independence of errors was checked to ensure the error associated with each data point was independent from the error of all other cases. I can make a judgement as to

whether this assumption was met by considering how the study was designed. A common violation of this assumption occurs when data points are observed in a time sequence which is not a consideration given the single time point for the data collected from part one of this study. As nothing in the design of the study would suggest there are shared characteristics that would cause cases to relate to one another, this assumption is considered to be met.

Means, standard deviations, bivariate correlations and reliability estimates were calculated for the predictor, mediator, and outcome variables using SPSS 22.0 and can be found in Table 1[3].

Table 1

Means, Standard Deviations, Bivariate Correlations, and Reliabilities of the Study Variables

Number	Construct	M	SD	1	2	3	4	5	6	7	8	9	10
1	Sex	1.81	0.39	(–)									
2	Customer Aggression	1.89	0.65	-.01	(.93)								
3	Supervisor Aggression	1.34	0.48	.02	.40	(.95)							
4	Co-Worker Aggression	1.37	0.46	.06	.49	.69	(.93)						
5	Autonomy	4.36	1.00	-.01	-.37	-.41	-.29	(.77)					
6	Competence	5.00	0.98	.00	-.32	-.32	-.25	.73	(.72)				
7	Relatedness	5.22	0.73	.08	-.33	-.35	-.37	.67	.66	(.65)			
8	K-10 (General Well-Being)	3.86	0.72	-.08	-.29	-.28	-.25	.34	.37	.33	(.90)		
9	JAWS Negative Affect	2.36	0.65	-.05	.48	.41	.44	-.57	-.57	-.53	-.56	(.87)	
10	JAWS Positive Affect	2.73	0.73	-.03	-.29	-.17	-.15	.56	.59	.49	.15	-.47	(.91)

Note. $N = 202$. Coefficient alpha is presented in parentheses on the diagonal. All correlation coefficients are significant at $p < .001$, except for correlations with sex, which are not significant ($p > .05$). Higher values reflect greater experiences of the construct. Scales 2, 3, 4, 8, 9, and 10 were measured using a 5-point scale, and scales 5, 6, and 7 were measured using a 7-point scale. Sex is coded 1=male, 2=female.

Tests of Psychological Needs as Mediator Variables (Hypotheses 1a, 2a, 3a)

   I conducted multiple mediation regression analyses to test the predicted paths in hypotheses 1a, 2a, and 3a. These hypotheses predicted that the psychological needs of SDT (i.e., autonomy, relatedness, competence) would mediate the relationships between workplace aggression (i.e., customer, co-worker, supervisor) and employee well-being (i.e., general, job-related positive affect, job-related negative affect). I used PROCESS v3, model 4 (Hayes, 2017) to conduct this analysis as it provides several advantages over other types of analyses, as described by Preacher and Hayes (2008): First, the PROCESS application can determine if there is an overall effect of several mediators in one model. As the mediating variables in this study belong to an overarching theory, it is important to be able to test them all in a single model. Second, the application is able to assess and compare the relative magnitudes of specific indirect effects. By providing beta weights we can see the strength of each variable of interest in the model. Confidence intervals are also calculated and allow us to see if these beta weights are significant. This detail is imperative because it is needed to properly test the above-mentioned hypotheses in this paper, as significance is required to confirm mediating effects. Finally, PROCESS allows for the use of a bootstraping technique to test the mediation models when requested. This technique is a powerful way to test the statistical significance of indirect effects (Mallinckrodt, Abraham, Wei, & Russell, 2006). Bootstrap analysis can be applied to small and medium-sized samples with a good deal of confidence (Preacher & Hayes, 2004), which is needed for the moderate sample size described in this paper.

Before delving into each of the hypotheses, it is of interest to examine the direct

effects between all sources of aggression and employee well-being. Results can be found

in Table 2 and Figures 1 through 9. Most direct paths were not significant, with two

exceptions. When all mediators were held constant, customer aggression predicted job-

related negative affective well-being (β = .20, LLCI = 0.08, ULCI = 0.32). Similarly, co-

worker aggression predicted job-related negative affective well-being when all mediators

were held constant (β = .24, LLCI = 0.02, ULCI = 0.45).

Hypothesis 1a predicted that perceptions of autonomy would mediate the

relationships between customer, co-worker, and supervisor aggression, and general and

job-related well-being. As can be seen in Table 3, the indirect effects of workplace

aggression to general employee well-being via perceptions of autonomy were not

significant; the 95% bootstrapped confidence intervals for each source of aggression

included zero. The indirect effect of co-worker aggression on positive affective well-

being through autonomy was not significant, but the links between customer aggression

(β = -.07, LLCI = -0.13, ULCI = -0.02) and supervisor aggression (β = -.09, LLCI =

-0.18, ULCI = -0.02) with job-related positive affective well-being were significant,

therefore these relationships were mediated by autonomy. The indirect effect of co-

worker aggression on negative affective well-being was also not significant, but the

indirect effects for customer aggression (β = .05, LLCI = 0.01, ULCI = 0.10) and

supervisor aggression (β = .07, LLCI = 0.01, ULCI = 0.14) again were significant,

meaning that the relationships between these two sources of aggression and job-related

negative affective well-being were mediated by perceptions of autonomy. Given that no

mediation of the effect of co-worker aggression was found, hypothesis 1a was only

partially supported, and only for job-related well-being.
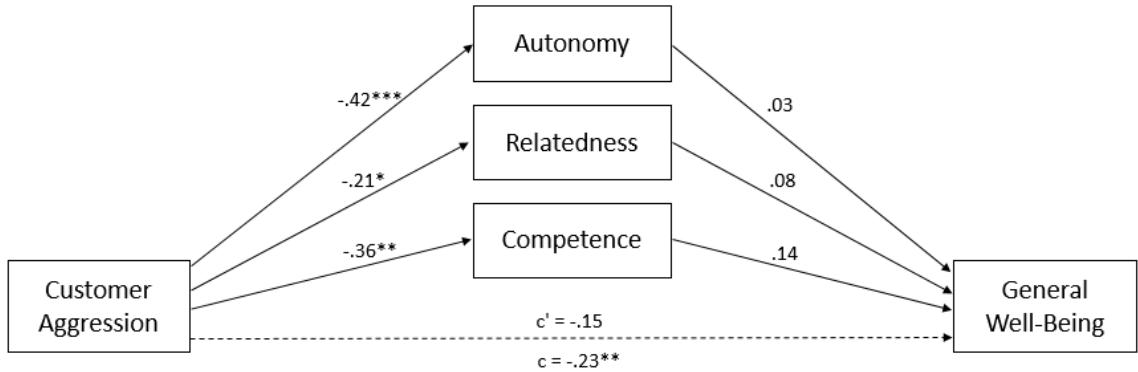
Figure 1. The estimated mediation model for customer aggression and general well-being. The numbers in the figure represent unstandardized regression coefficients. *p < .05, **p < .01, ***p < .001. c = total effect, c' = direct effect.
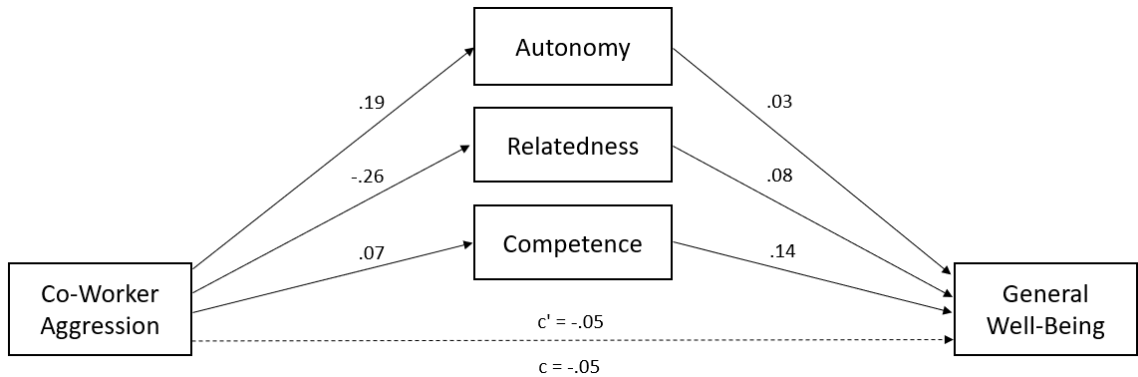
Figure 2. The estimated mediation model for co-worker aggression and general well-being. The numbers in the figure represent unstandardized regression coefficients. *p < .05, **p < .01, ***p < .001. c = total effect, c' = direct effect.
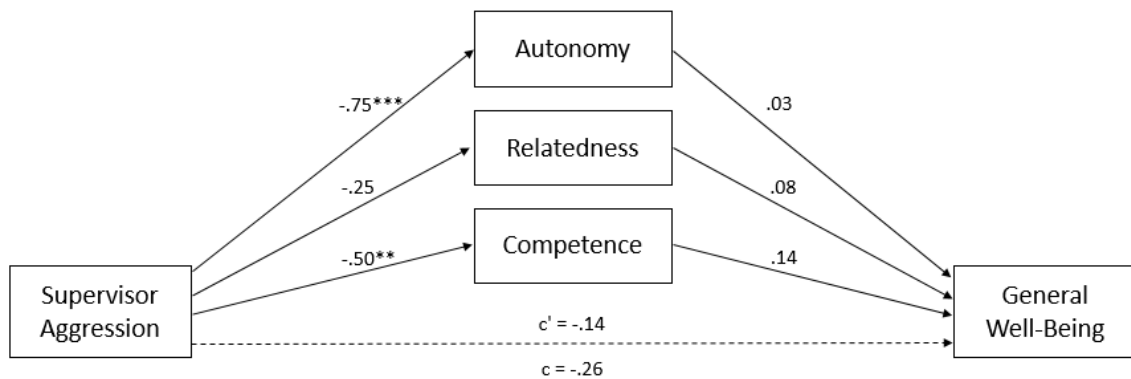
Figure 3. The estimated mediation model for supervisor aggression and general well-being. The numbers in the figure represent unstandardized regression coefficients. *p < .05, **p < .01, ***p < .001. c = total effect, c' = direct effect.

Figure 4. The estimated mediation model for customer aggression and job-related positive well-being. The numbers in the figure represent unstandardized regression coefficients. *p < .05, **p < .01, ***p < .001. c = total effect, c' = direct effect.

Figure 5. The estimated mediation model for co-worker aggression and job-related positive well-being. The numbers in the figure represent unstandardized regression coefficients. *p < .05, **p < .01, ***p < .001. c = total effect, c' = direct effect.

Figure 6. The estimated mediation model for supervisor aggression and job-related positive well-being. The numbers in the figure represent unstandardized regression coefficients. *p < .05, **p < .01, ***p < .001. c = total effect, c' = direct effect.
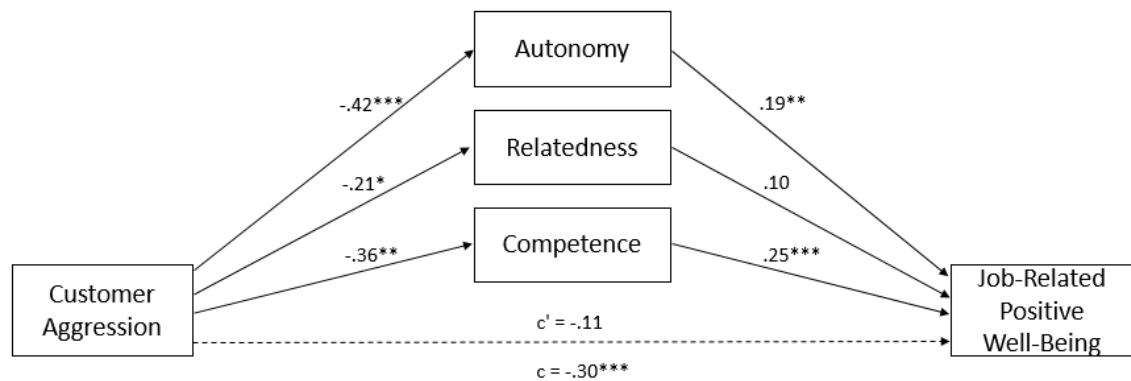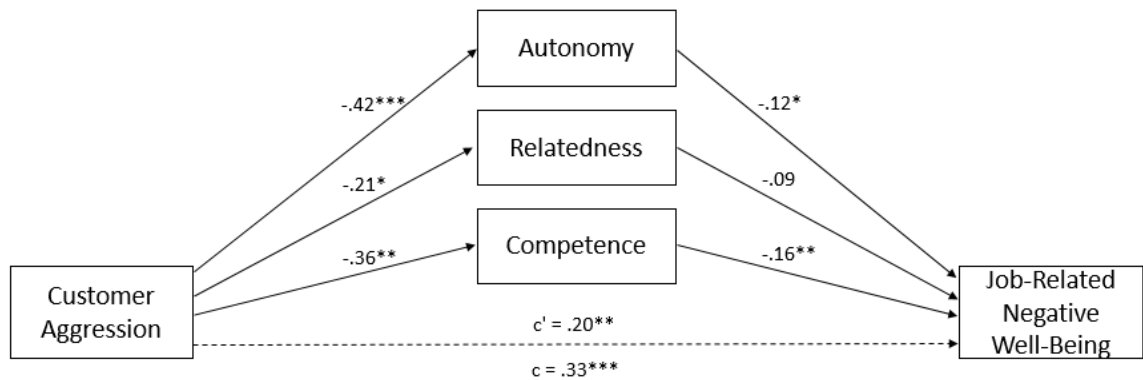
Figure 7. The estimated mediation model for customer aggression and job-related negative well-being. The numbers in the figure represent unstandardized regression coefficients. *p < .05, **p < .01, ***p < .001. c = total effect, c' = direct effect.
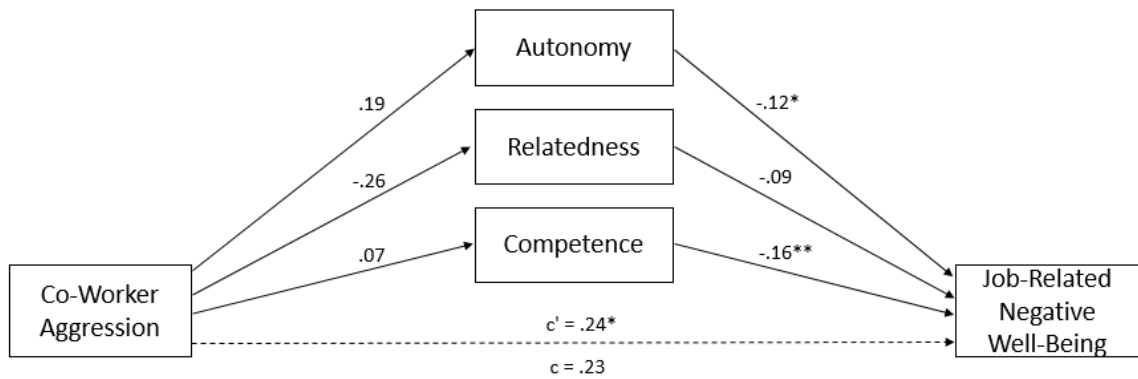
Figure 8. The estimated mediation model for co-worker aggression and job-related negative well-being. The numbers in the figure represent unstandardized regression coefficients. *p < .05, **p < .01, ***p < .001. c = total effect, c' = direct effect.

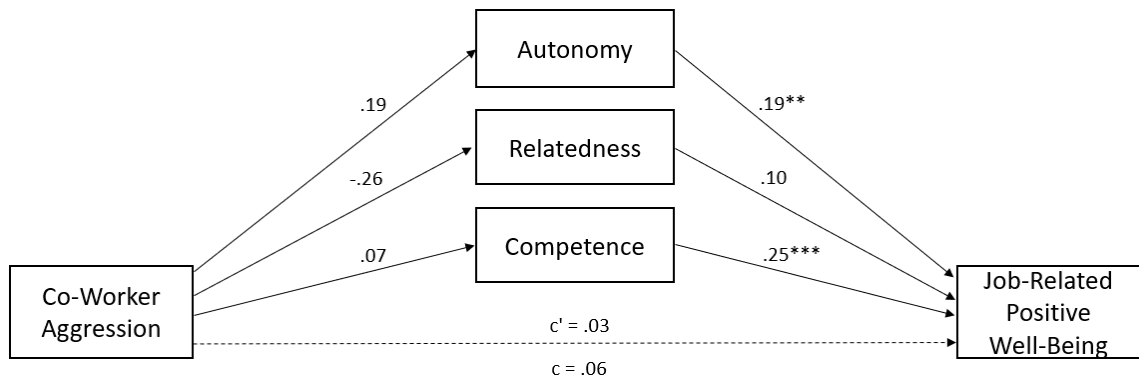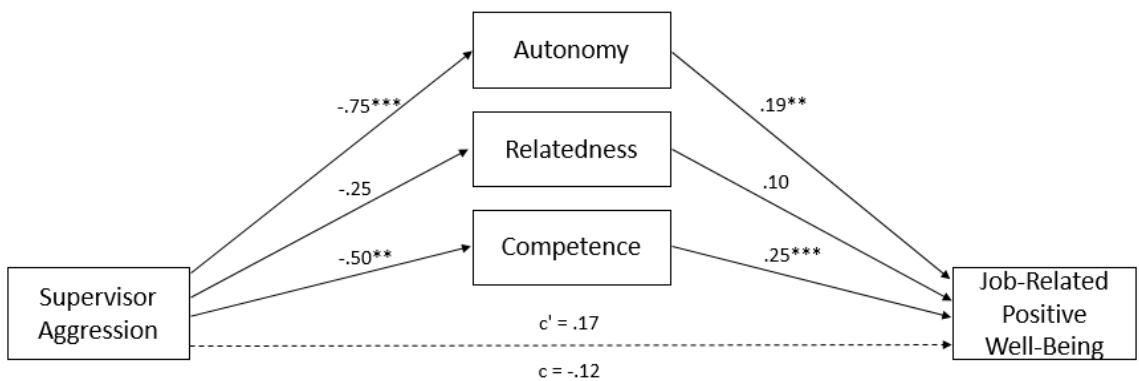*Figure 9*. The estimated mediation model for supervisor aggression and job-related negative well-being. The numbers in the figure represent unstandardized regression coefficients. *p < .05, **p < .01, ***p < .001. c = total effect, c' = direct effect.

Table 2

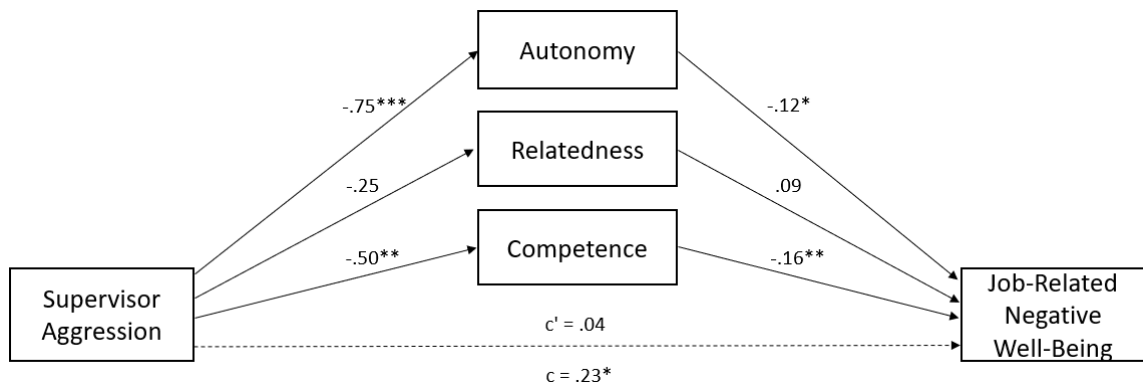*Coefficients for Paths Between all Variables*

		Coeff	SE	95 % LLCI	95% ULCI
Customer Aggression	Autonomy	-.42***	.11	-0.64	-0.20
	Relatedness	-.21*	.08	-0.37	-0.04
	Competence	-.36**	.11	-0.59	-0.14
	General Well-Being	-.15	.09	-0.32	0.02
	Job-Related Positive Affective Well-Being	-.11	.07	-0.75	0.89
	Job-Related Negative Affective Well-Being	.20**	.06	0.08	0.32
Co-Worker Aggression	Autonomy	.19	.20	-0.20	0.58
	Relatedness	-.26	.15	-0.56	0.03
	Competence	.07	.20	-0.33	0.47
	General Well-Being	-.05	.15	-0.34	0.25
	Job-Related Positive Affective Well-Being	.03	.13	-0.23	0.29
	Job-Related Negative Affective Well-Being	.24*	.11	0.02	0.45
Supervisor Aggression	Autonomy	-.75***	.18	-1.10	-0.39
	Relatedness	-.25	.14	-0.51	0.02
	Competence	-.50**	.19	-0.87	-0.14
	General Well-Being	-.14	.14	-0.42	0.14
	Job-Related Positive Affective Well-Being	.17	.12	-0.07	0.41
	Job-Related Negative Affective Well-Being	.04	.10	-0.16	0.24
General Well-Being	Autonomy	.03	.08	-0.12	0.18
	Relatedness	.08	.09	-0.10	0.27
	Competence	.14	.07	0.00	0.29
Job-Related Positive Affective Well-Being	Autonomy	.19**	.07	0.06	0.32
	Relatedness	.10	.08	-0.06	0.26
	Competence	.25***	.06	0.12	0.37
Job-Related Negative Affective Well-Being	Autonomy	-.12*	.06	-0.22	-0.01
	Relatedness	-.09	.07	-0.23	0.04
	Competence	-.16**	.05	-0.27	-0.06

Note. $N = 202$. *p < .05, **p < .01, ***p < .001. Path coefficients for each source of aggression were calculated with the other two sources entered as covariates. Path coefficients from each psychological need to well-being outcomes were calculated holding sources of aggression constant. All path coefficients from aggression to well-being were calculated holding psychological needs constant. Unstandardized coefficients are presented.

Table 3
Indirect Effects of all Pathways

			Coeff	*SE*	95 % LLCI	95% ULCI
Customer Aggression	General Well-Being	Autonomy	-.01	.03	-0.07	0.04
		Relatedness	-.02	.02	-0.06	0.02
		Competence	-.05	.03	-0.11	0.00
	Job-Related Positive Affective Well-Being	Autonomy	-.07	.03	**-0.13**	**-0.02**
		Relatedness	-.02	.02	-0.06	0.01
		Competence	-.08	.03	**-0.15**	**-0.03**
	Job-Related Negative Affective Well-Being	Autonomy	.05	.03	**0.01**	**0.10**
		Relatedness	.02	.02	-0.01	0.06
		Competence	.06	.03	**0.02**	**0.12**
Co-Worker Aggression	General Well-Being	Autonomy	-.01	.03	-0.04	0.05
		Relatedness	-.02	.02	-0.06	0.02
		Competence	-.05	.03	-0.11	0.00
	Job-Related Positive Affective Well-Being	Autonomy	.02	.03	-0.03	0.08
		Relatedness	-.02	.02	-0.06	0.01
		Competence	.01	.03	-0.06	0.07
	Job-Related Negative Affective Well-Being	Autonomy	-.01	-.02	.02	-0.06
		Relatedness	-.02	-.02	.02	-0.01
		Competence	-.05	.01	.03	-0.06
Supervisor Aggression	General Well-Being	Autonomy	-.02	.04	-0.10	0.05
		Relatedness	-.01	.02	-0.06	0.02
		Competence	-.05	.03	-0.12	0.01
	Job-Related Positive Affective Well-Being	Autonomy	-.09	.04	**-0.18**	**-0.02**
		Relatedness	-.02	.02	-0.06	0.01
		Competence	-.08	.04	**-0.18**	**-0.01**
	Job-Related Negative Affective Well-Being	Autonomy	.07	.03	**0.01**	**0.14**
		Relatedness	.02	.02	-0.01	0.06
		Competence	.06	.03	**0.01**	**0.13**

Note. $N = 202$. Confidence intervals are based on 10,000 bootstrap samples. Coefficients are considered significant if confidence intervals do not include 0; confidence intervals that don't cross 0 are bolded. When testing the indirect effects of the primary aggression source and primary psychological need of interest in each model, effects of the other aggression sources and psychological needs were statistically controlled for.

Hypothesis 2a predicted that perceptions of relatedness would mediate the relationships between customer, co-worker, and supervisor aggression, and general and job-related affective well-being. As can be seen in Table 3, the indirect effects of workplace aggression to general employee well-being via relatedness were not significant as the 95% bootstrapped confidence intervals for each source of aggression included zero. The indirect effects of customer, co-worker, and supervisor aggression on job-related positive well-being were also not significant as all confidence intervals included zero. The indirect effects of customer, co-worker, and supervisor aggression on job-related negative well-being were again not significant, as confidence intervals included zero. Given that no significant indirect effects were found in these models, hypothesis 2a was not supported.

Hypothesis 3a predicted that perceptions of competence would mediate the relationship between customer, co-worker, and supervisor aggression, and general and job-related well-being. As can be seen in Table 3, the indirect effects of workplace aggression to general employee well-being through competence were not significant; confidence intervals for each source of aggression included zero. The indirect effect of co-worker aggression on job-related positive affective well-being was not significant, but as confidence intervals for customer aggression ($\beta = -.08$, LLCI = -0.15, ULCI = -0.03) and supervisor aggression ($\beta = -.08$, LLCI = -0.18, ULCI = -0.01) did not include zero the links between these two sources of workplace aggression and positive affective well-being were significantly mediated by perceptions of competence. The indirect effect of co-worker aggression on job-related negative affective well-being was also not

significant, but indirect effects for customer aggression ($\beta = .06$, LLCI = 0.02, ULCI = 0.12) and supervisor aggression ($\beta = .06$, LLCI = 0.01, ULCI = 0.13) again were significant, demonstrating that the relationships between customer and supervisor aggression and job-related negative affective well-being were mediated by perceptions of competence. Given that indirect effects of co-worker aggression were not significant in these models, hypothesis 3a was only partially supported and only for job-related affective well-being.

Comparing Sources of Aggression for Predicting Mediators (Hypotheses 1b, 2b, and 3b)

Multiple linear regressions were used to test hypotheses 1b, 2b, and 3b in SPSS 22.0. These hypotheses stated that each individual source of aggression would predict perceptions of one psychological need more strongly than the other two sources. By using this type of analysis, I was able to examine the effects of the three sources of aggression on each individual psychological need. This analysis, however, did not allow me to report with confidence that each source was a significantly better predictor of the psychological needs than the other two sources. To find this information, I conducted a relative weight analysis (Johnson, 2000). This type of analysis more accurately reports the partitioning of variance among the difference sources of workplace aggression than would a multiple linear regression (Tonidandel & LeBreton, 2015). It creates a new set of predictors that are orthogonal transformations of the originals and are therefore uncorrelated. The regression coefficients are rescaled back to the original variables; they are combined with the standardized regression coefficients that were calculated by

regressing the original set of predictors on their orthogonal counterparts. This process

produces an estimate of relative importance for each source of aggression. I ran this

relative weight analysis using RWA-Web (Tonidandel & LeBreton, 2014) which

provided a script to run the analysis using a custom function and the 'boot' package in R

(R Core Team, 2013; Canty & Ripley, 2017). Bootstrapping was used with 10,000

replications to provide 95% confidence intervals, allowing for significance testing.

Hypothesis 1b predicted that experiences of customer aggression would more

strongly predict perceptions of autonomy than experiences of co-worker and supervisor

aggression.   Using a multiple linear regression, 22.2% of the variance in perceptions of

autonomy was found to be attributed to customer, co-worker, and supervisor aggression.

As none of the 95% CIs for the tests of significance contained zero, all three variables

explained a statistically significant amount of variance in autonomy. The largest amount

of variance in autonomy was explained by supervisor aggression ($RW = 0.10$), followed

by customer aggression ($RW = 0.09$) and co-worker aggression ($RW = 0.03$). I set

customer aggression as the control variable in order to find the variance of the other two

sources in relation to it. Because the CIs for the estimates of co-worker aggression (95%

$CI = -0.13, 0.00$) and supervisor aggression (95% $CI = -0.07, 0.13$) include zero, they

were not found to differ significantly from customer aggression. Given that customer

aggression did not account for significantly more variance in autonomy relative to co-

worker and supervisor aggression, hypothesis 1b was not supported.

Hypothesis 2b predicted that experiences of co-worker aggression would more

strongly predict perceptions of relatedness than experiences of customer and supervisor

aggression.   Using a multiple linear regression, 17.8% of the variance in perceptions of relatedness was found to be attributed to customer, co-worker, and supervisor aggression. As none of the 95% CIs for the significance tests contained zero, all three variables explained a statistically significant amount of variance in relatedness. Amounts of variance in relatedness were explained equally by co-worker aggression ($RW = 0.06$), customer aggression ($RW = 0.06$) and supervisor aggression ($RW = 0.06$). I set co-worker aggression as the control variable in order to find the variance of the other two sources in relation to it. Because the CIs for the estimates of customer aggression (95% $CI = -0.08, 0.08$) and supervisor aggression (95% $CI = -0.06, 0.07$) include zero, they were not found to differ significantly from co-worker aggression. Given that co-worker aggression did not account for significantly more variance in relatedness relative to customer and supervisor aggression, hypothesis 2b was not supported.

    Hypothesis 3b predicted that experiences of supervisor aggression would more strongly predict perceptions of competence than experiences of co-worker and customer aggression. Using a multiple linear regression, 14.8% of the variance in perceptions of competence was found to be attributed to customer, co-worker, and supervisor aggression. As none of the 95% CIs for the significance tests contained zero, all three variables explained a statistically significant amount of variance in competence. The largest amount of variance in competence was explained by customer aggression ($RW = 0.07$), followed by supervisor aggression ($RW = 0.06$) and co-worker aggression ($RW = 0.02$). I set supervisor aggression as the control variable in order to find the variance of the other two sources in relation to it. Because the CIs for the estimates of customer

aggression (95% CI = -0.08, 0.08) and co-worker aggression (95% CI = -0.12, 0.01)

include zero, they were not found to differ significantly from supervisor aggression.

Given that supervisor aggression did not account for more variance relative to customer

and co-worker aggression, hypothesis 3b was not supported.

Repeat Customers as a Moderator Variable (Hypothesis 2c)

A hierarchical moderated multiple regression was used to test hypothesis 2c, which

posited that the more repeat customers an employee interacted with in their job, the more

customer aggression would negatively affect their feelings of relatedness. I used

PROCESS v3, model 1 (Hayes, 2017) to conduct this analysis.

Two variables were included to begin the analysis: Customer Aggression and Repeat

Customers. These variables accounted for a significant amount of variance in

Relatedness (R^2 = .11, $F(2, 199)$ = 12.37, $p < .001$). Variables were centered in order to

avoid the potential issue of multicolinearity and an interaction term between Customer

Aggression and Repeat Customers was created. The interaction term was then added to

the regression model. This term did not account for a significant proportion of variance

in relatedness (R^2 Change = .01, β = .00, p = .44, 95% CI = -.52, .08). Because the

interaction was not significant, hypothesis 2c was not supported.

Additional Findings

Although this research examined each mediation pathway separately, total effects

were calculated for each model that included the direct and indirect effects. Results for

these models can be seen in Table 4 as well as in Figures 1 through 9. Results shown

consider each individual source of aggression with the other two sources entered as

covariates, and how the sources relate to the three different well-being outcomes through the three mediating variables of SDT.

The total effects for models that tested the mediating effects of psychological needs on the relationships between co-worker and supervisor aggression, and general well-being were not significant. In addition, no models with co-worker aggression as the primary predictor variable were significant. While mediation models including co-worker and supervisor aggression and general well-being were not significant, the total effects model for customer aggression and general well-being was significant ($\beta = -.23$, $SE = .08$, $p < .01$, $R^2 = .12$). The total effect model for customer aggression and job-related positive affective well-being was significant ($\beta = -.30$, $SE = .09$, $p < .001$, $R^2 = .09$), as was the model for customer aggression and job-related negative affective well-being ($\beta = .33$, $SE = .07$, $p < .001$, $R^2 = .30$). The total effects model between supervisor aggression and job-related positive affective well-being, was not found to be significant, but the model for supervisor aggression and job-related negative affective well-being was significant ($\beta = .23$, $SE = .11$, $p < .05$, $R^2 = .30$).

Table 4

Total Effects of All Hypothesized Mediation Models Tested

		Coeff	*SE*	95% LLCI	95% ULCI	R^2
Customer Aggression	General Well-Being	-.23**	.08	-0.40	-0.06	.12
	Job-Related Positive Affective Well-Being	-.30***	.09	-0.47	-0.13	.09
	Job-Related Negative Affective Well-Being	.33***	.07	0.19	0.47	.30
Co-Worker Aggression	General Well-Being	-.05	.15	-0.35	0.24	.12
	Job-Related Positive Affective Well-Being	.06	.16	-0.25	0.36	.09
	Job-Related Negative Affective Well-Being	.23	.12	-0.02	0.47	.30
Supervisor Aggression	General Well-Being	-.26	.14	-0.53	0.01	.12
	Job-Related Positive Affective Well-Being	-.12	.14	-0.41	0.16	.09
	Job-Related Negative Affective Well-Being	.23*	.11	0.01	0.46	.30

Note. N = 202. *p < .05, **p < .01, ***p < .001. Total effects include all direct and indirect effects for each model. Total effect coefficients for each source of aggression were calculated with the other two sources entered as covariates and included all three mediators.

Discussion

Exposure to aggression in the workplace is unfortunately not uncommon, especially for employees in the customer service industry (Schat et al., 2006). Studies have found workplace aggression to be associated with reduced employee well-being (e.g., Dudenhoffer & Dormann, 2015; Dupré et al., 2014; Kelloway et al., 2006; Yragui et al., 2017), but to date little research has sought to explain exactly why this type of negative behaviour affects well-being. The research in this thesis sought to examine how

multi-source aggression may affect well-being in customer service workers by looking through a lens of SDT (Deci & Ryan, 2002).

I hypothesized that all sources of aggression (i.e., customer, co-worker, supervisor) would influence employee well-being through SDT's (Deci & Ryan, 2002) fundamental needs of autonomy, relatedness, and competence. Only partial support was gleaned for these predictions. Specifically, no source of aggression predicted *general well-being* through the three psychological needs being studied, which was counter to my hypotheses. Moreover, no source was found to have a direct effect on general well-being, controlling for the fundamental needs.

In addition, co-worker aggression was not found to predict job-related well-being through perceptions of the three different psychological needs, again counter to my hypotheses. When examining direct effects, co-worker aggression only predicted job-related negative affective well-being. This finding suggests that the link between co-worker aggression and negative emotions on the job may be explained by variables outside of SDT (Deci & Ryan, 2002). Moreover, perceptions of relatedness did not explain the relationships between workplace aggression and employee well-being, regardless of source or outcome. For these customer service workers, feelings of relatedness to others at work did not seem to explain any source of aggression's effects. That is, the relationships between experiences of mistreatment at work and an employee's negative and positive emotions on the job and global mental health were not explained by how connected they felt to others in the workplace.

Lending partial support to the hypotheses, however, the relationships between customer and supervisor aggression, and job-related affective well-being were explained through the indirect effects of autonomy and competence. An increase in customer aggression was related to lowered perceptions of autonomy, and in turn predicted more negative emotions and less positive emotions at work. Similarly, an increase in supervisor aggression was linked to lowered feelings of autonomy which in turn was associated with a higher rate of negative emotions and a lower rate of positive emotions at work. Increased supervisor and customer aggression also negatively predicted feelings of competence; in turn, lowered perceptions of competence were associated with increased negative emotions and decreased positive emotions at work. These results suggest that mistreatment from customers and supervisors may lead employees to feel that they have less control and are less competent in their job roles, resulting in greater feelings of anger, depression, and anxiety, and reduced feelings of enthusiasm, excitement, and satisfaction at work.

I also examined whether different sources of aggression would be stronger predictors of specific fundamental needs (e.g., I expected customer aggression to be a stronger predictor of autonomy relative to co-worker and supervisor aggression). Unfortunately, none of these hypotheses were supported as all of the sources seemed to be equally good predictors of the three fundamental needs (when those needs were considered in isolation). Finally, I posited that the more repeat customers an employee interacted with in their job, the more customer aggression would negatively affect their feelings of relatedness, as a repeat customer would be perceived as less of an "outsider"

to one's social group than is a one-time customer (Gutek et al., 2000). This hypothesis

was not supported; relatedness was no more related to customer aggression if the

customer was well-known to the employee than if they were not.

Implications of Findings and Future Research

   The relationships that emerged in this thesis have potential practical and

theoretical implications. Previous research has linked workplace aggression to employee

well-being (e.g., Ashill & Rod, 2011; Dupré et al., 2014; Zhou et al., 2015), but has

rarely attempted to explain why these relationships exist. My research adds to the

literature by offering a possible explanation for how employee well-being is affected by

customer and supervisor aggression. Specifically, being on the receiving end of

aggression from either source may lead employees to feel less competent in their jobs and

perceive themselves as having less freedom and control which results in damage to

employees' emotional states. Insight into how these sources of aggression affect an

employee's mental health at work is a significant contribution to the literature and

provides support for other researchers to examine workplace mistreatment through the

lens of SDT (Deci & Ryan, 2002). Future studies should replicate and build on these

research findings.

   The ability to explain the relationship between customer and supervisor

aggression, and employee affective well-being has practical implications as well: We can

perhaps identify when an employee's health is at risk before it reaches the point of

illness. For example, consider an employee working in a call center. Research suggests

that they may be subjected to customer aggression on a daily basis (Grandey et al., 2004);

unfortunately, this pattern may continue to be the norm. Research also supports the notion that these workers experience high rates of burnout and exhaustion (Ashill & Rod, 2011). Perhaps workers can be surveyed to measure their perceptions of competence and autonomy on a regular basis; when their perceptions of these needs begin to decline, that may signal the need for an intervention to prevent illness from occurring. Being able to identify this decline early may prevent employees from experiencing a more significant decline in their psychological health. A potential issue with this recommendation, however, is that employees may be distrustful of these surveys; often they are unconvinced that the surveys are truly anonymous and they may also be skeptical that their responses will produce any meaningful changes (Wilkie, 2008). If employees distrust the process, they may either respond to the survey dishonestly or may not respond at all. Organizations that want to increase openness to employee surveys must take measures to build trust with employees (Saari & Scherbaum, 2011).   It is also important to use the results of these surveys in an attempt to ameliorate aggressive climates. Research by Mueller and Tschan (2011) found that employees who believed their organization was actively trying to prevent workplace aggression were less likely to experience the unwanted consequences of aggression than employees who did not have that same perception.

Indeed, proactive strategies may help to mitigate the negative effects of stress, in this case from workplace aggression, more effectively than reactive strategies (Tan et al., 2014; Tsaur & Tang, 2012). Utilizing the findings from this research, organizations may develop strategies to actively increase employees' feelings of autonomy and competence

to potentially minimize the negative effects workplace aggression has on these needs.

For example, research on call centers has shown that enacting policies encouraging

display autonomy, or the freedom to act normally and naturally towards others, reduces

employee exhaustion (Goldberg & Grandey, 2007). This research also shows that

allowing employees to be themselves reduces errors made by workers, which may

contribute to an increase in feelings of competence. Taking care to create less stress for

clients by employing best customer service practices, such as implementing policies that

decrease worker error, may also lead to a decline in aggression from customers

(Kelloway et al., 2006). These types of policies may build up feelings of autonomy and

competence in customer service workers. The idea that building up these needs before

mistreatment even occurs may mitigate negative outcomes is in line with the

Conservation of Resources Theory (COR; Hobfoll, 1989). COR maintains that

individuals use up internal resources in an attempt to cope with stressful situations in

order to prevent negative health outcomes. The larger their buildup of resources, the less

likely they are to use them all up when called upon. By this logic, building feelings of

autonomy and competence in customer service workers before they encounter workplace

aggression may allow them to draw from those needed resources without depleting them,

thereby potentially preserving their well-being.

Organizations may also draw on these findings to support attempts to reduce

workplace aggression. For example, leadership training and development initiatives may

be created with an emphasis on reducing aggressive behaviour (Culross, Cohen, Wolfe,

& Ruby, 2006; Hastings, 2011; Public Services Health & Safety Assocation, ND).

Reducing aggression from organizational outsiders may at first seem to be a difficult endeavor as it would involve an attempt to control a person's behaviour who is not employed by the organization. There are various strategies that may be employed, however, in an attempt to reduce this type of mistreatment by customers. For example, Kelloway and colleagues (2006) recommend reducing customer stress by implementing good customer service practices, such as attempting to reduce the amount of time customers may spend waiting for appointments, developing service workers to be courteous to customers, and training employees to appropriately handle angry or anxious customers so situations do not escalate. The authors also recommend that workers should feel empowered to end any transaction where the customer may harm someone (which, as noted earlier, may also build feelings of autonomy). Harris and Daunt (2013) recommend that management carefully select staff members who will be dealing with potentially aggressive members of the public; that is, employees who are confident and able to diffuse tense situations. They also suggest "firing" customers who misbehave by informing them that their patronage is no longer welcome. Doing this not only prevents the aggressive customer from returning, but also communicates to other customers that aggressive or violent behaviour will not be tolerated.

Supervisor aggression may also be reduced with leadership training and development initiatives; in an experiment conducted by Gonzalez-Morales and colleagues (2016), employees of leaders who went through supervisor support training reported less abusive supervision than employees whose leaders did not receive training. Crawshaw (2010) outlines several features of a leader development program intended to

reduce abrasive leadership, including decreasing leader defensiveness, increasing insights into leader behaviour, and building empathy in leaders. These strategies may reduce supervisor aggression, in turn helping to preserve employees' well-being.

In addition to the significant patterns that emerged in the current research, there were several non-significant findings in this study which deserve further investigation. For example, co-worker aggression was not found to predict employee well-being through any of the psychological needs of SDT, yet had a direct link to negative emotions at work. It could very well be that for this source of aggression, fulfillment of the psychological needs of autonomy, relatedness, and competence do not play a role in how an employee's well-being is affected. If this is the case, future research may wish to explore different mechanisms by which employees are affected by co-worker aggression as it is clear from previous research, in addition to my findings, that this source of aggression is linked to employee well-being (e.g., Bowling & Beehr, 2006; LeBlanc & Kelloway, 2002; Yragui et al., 2017).

In addition to the direct effect of coworker aggression on negative affect at work, customer aggression also demonstrated a direct effect, controlling for the SDT mediators, suggesting that additional mediating variables may be at play for both of these sources. For example, how satisfied an employee is with their work has been found to mediate the relationship between incivility and physical health (Lim, Cortina, & Magley, 2008). Perhaps co-worker and customer mistreatment dampen enjoyment at work, which results in more negative emotions. An additional mediating variable may reflect fear of future violence and aggression. Indeed, research by Rogers and Kelloway (1997) demonstrated

that fear of future violence mediates the relationship between exposure to violent acts in the workplace (either as a target or witness) and employee well-being. Subsequent research confirmed these findings when similar results were found with different samples (LeBlanc & Kelloway, 2002; Mueller & Tschan, 2011; Schat & Kelloway, 2000). Future research should incorporate additional potential mediators, such as fear of future aggression and violence as well as enjoyment at work, to examine if these variables explain additional variability in the links between customer and coworker aggression and negative affect at work.

Another interesting question pertains to why the different psychological needs did not explain the relationship between workplace aggression and general well-being of employees. One may draw from this the conclusion that the fulfillment, or lack thereof, of psychological needs in the workplace does not affect employees beyond their working environment. SDT states that social contexts either support or thwart psychological needs (Deci & Ryan, 2000), therefore it is possible that different types of well-being are uniquely affected in different contexts and as such, we would expect different types of well-being in various contexts. I can therefore postulate that an individual may only experience negative effects at work when exposed to aggression on the job, as this effect may be context-specific.

It is also possible, however, that the nature of the sample in this research affected the findings as they relate to an employee's general well-being. Research has shown that long working hours are related to negative health outcomes, such as burnout (Hu, Chen, & Cheng, 2016; Ilhan, Durukan, Taner, Maral, & Bumin, 2007; Rupert & Morgan, 2005).

As most of the participants in this research (97.4%) indicated they were working in the service industry part-time, it is possible that the respondents did not spend enough time in their working environment for the negative effects of aggression to carry over into their lives outside of work. Future studies may wish to replicate this study sampling both part-time and full-time workers, as the above-cited research would lead us to believe poor mental health outcomes outside of work would be higher for those in full-time positions.

Previous studies have also found a positive relationship between number of hours worked and occupational identity (e.g., Greenhaus, Peng, & Allen, 2012; Ng & Feldman, 2008). These findings suggest that the less time a person spends as work the weaker their work identity will be. As their job would not be as central to their sense of self as it would be for a full-time employee, a part-time worker may feel less of a need to experience autonomy, relatedness, and competence at work. This diminished need may be particularly true of the part-time workers in the current study who are most likely not in career-path jobs but rather are in transient positions as they pursue their education. It is possible that threats to feelings of autonomy, competence and relatedness in their school environment may be stronger determinants of their general well-being than the meeting of these needs in more transient work positions (Niemiec & Ryan, 2009).

Moreover, relatedness was not able to explain the relationships between any source of workplace aggression and employee well-being. This finding may lead one to assume that relatedness is perhaps not a need that service workers feel inclined to fulfill. However, SDT research suggests that this is not the case (Deci & Ryan, 2005), and further research has shown that rejection by one's co-workers has various negative

outcomes for employees (Balliet & Ferris, 2013; Hitlan, 2006; Penhaligon et al., 2013). As eluded to earlier, perhaps the respondents in this sample have the need to belong met outside of work which produces a sustained effect and carries over into the workplace. That is, perhaps their need for relatedness does not need to be satisfied inside of work because they are so fulfilled outside of work or because work is less central to their identity. A study by Huynh, Xanthopoulou, and Winefield (2013) found that support received by family and friends was a critical resource that helped firefighters cope with work demands, which may have helped prevent burnout. This research shows that outside support can help prevent negative effects inside one's job. Future research may benefit from examining how relationships outside of the workplace may affect the relationship between aggression and well-being inside of work, as the above-mentioned research has shown those resources may help one cope with stressors in their job.

Another reason relatedness might not have mediated the relationship between workplace aggression and employee well-being is again perhaps due to the more transient part-time nature of the current sample. As previously mentioned, part-time workers may have weaker work identities (Greenhaus et al., 2012; Ng & Feldman, 2008). Having a weaker work identity may help preserve a worker's feeling of relatedness when exposed to workplace aggression, as their need to belong within the work environment may be lower than other employees with stronger work identities. It is also possible that the part-time, transient (non-career) nature of the sample affected relatedness outcomes in another way. The mean number of shifts worked per week in the sample was approximately three. Considering participants, on average, only worked a few shifts each week, it is

possible that they were accustomed to working with different co-workers (and possibly different supervisors) each shift. As such, participants may not have had the opportunity to spend a sufficient amount of time with their colleagues and supervisors to feel (or be concerned about feeling) connected with them. Bonds may be formed when working with colleagues on projects but are quickly broken up when the project ends and they no longer see one another (Kelan, 2012), highlighting the need for continued interaction to maintain a sense of belongingness with others in the workplace.

No source of aggression was found to predict a significantly larger amount of variance in any psychological need over the other two sources. Effect sizes and non-significant results indicate the three sources of aggression explain roughly the same amount of variance in autonomy, relatedness, and competence. A possible explanation for this may be a lack of discrimination between the SDT scales. Correlations between these three scales in my sample are either higher than or are approaching the alpha values for each individual scale. This finding suggests that the three psychological needs did not emerge as distinct variables for this sample. As the scales used to measure the psychological needs of SDT are well established in the literature (e.g., Deci & Ryan, 2002; Gagné & Deci, 2005; Reis et al., 2000), this lack of discrimination between variables appears to be an issue that may be tied to this study's sample.

Finally, an employee's feelings of relatedness were similar regardless of whether they were mistreated by first-time customers or repeat customers. This may be because employees have a desire to relate to clients regardless of whether or not they are repeat customers, as previous research has shown that many workers feel the desire to relate to

their customers (Holmvall & Sidhu, 2007). Studies should attempt to examine this phenomenon by replicating the study and recruiting participants with varying percentages of repeat customers to see if they yield similar results.

Limitations

It is important to acknowledge the general limitations of this study which may have affected the results as a whole. One overarching limitation to this study is the homogeneity of the sample. This could have affected the results in several ways: The sample in this study was composed mostly of retail (54%) and restaurant (25.1%) workers. While these occupations are of specific interest to this research, service jobs represent a much broader range of occupations; there are many occupations in which employees must interact with and provide services to members of the public. For example, call center workers, as previously discussed, not only work with customers on a continual basis, but may be exposed to verbal abuse several times per day (Grandey et al., 2004). Had I ensured a broader range of service workers were included in this research, I may have found higher reported rates of aggression. With more variability in the predictor variables, I would have expected to see a similar increase in variability in the mediator and outcomes variables. These findings may have yielded stronger mediation results by showing how psychological needs and well-being differ with more extreme reports of aggression than were reported in the current study. Future studies examining these relationships should include a broader scope of occupations where workers must deal with members of the public, as stronger effects may emerge.

As respondents were recruited from undergraduate courses at a university, this likely affected the average age of the sample. While the median age of service workers in Canada is 36.7 (Statistics Canada, 2017), the median age of this sample was 21. Having a young sample may have affected the results in several ways, in addition to those already discussed. As younger adults are less likely to have children, they may experience less work - home conflict than would middle-aged employees (Zacher & Winter, 2011). With less conflict, younger adults may be more likely to report higher levels of well-being, and might be able to better cope with work stressors. Some research has shown that responsibilities increase with age, and this may negatively affect coping (Heckhausen et al., 2010). An additional study found that older adults have more difficulties dealing with chronic or unavoidable stressors than would younger adults (Charles, 2010), which may lead one to posit that the young age of the sample in this research may have affected my findings as younger workers may be less vulnerable to a decline in well-being when encountering stress. On the other hand, being in university and working part-time has its own unique challenges that may rival the stressors of older adulthood. While students may have led active lives before entering university, the sudden shift to a sedentary lifestyle has been shown to increase their levels of stress, anxiety, and depression (Lee & Kim, 2018). Also, in part due to new considerations such as exposure social media, youths are experiencing greater feelings of anxiety and lowered self-esteem than in previous years (Woods & Scott, 2016). While young students may already be at an increased risk of anxiety because of social media, the previously cited research demonstrates how those entering university may be at an even greater risk of

decreased well-being. This more recent research provides a counter argument to the

studies previously cited stating adults are less able to cope with stress than are younger

individuals; given the unique stressors young workers face today, it is possible they are

just as vulnerable to stress in the workplace as are older adults, and their well-being is at

a similar risk.   Unfortunately, participants in this research were not asked about their

stressors outside of work so it is not possible to determine how outside stressors may

have affected survey responses. As adults and younger workers face different stressors

outside of work that may affect their reactions to aggression in the workplace, it would be

advantageous for future research not only to ensure workers of all ages are surveyed, but

also to inquire about other sources of stress when surveying participants.

Another limitation of this research is that the sample was predominantly

composed of females (81.6%), which is a greater proportion than the Canadian

population where only 54.82% of retail, accommodation, and food workers are female

(Statistics Canada, 2017). A meta-analysis on workplace aggression and sex differences

found that in studies with statistically significant findings, men were more often the

victims of verbal aggression, which included insults and obscenities (Guay, Goncalves, &

Jarvis, 2014). Even in predominantly female industries, such as nursing, certain studies

have found that males experience more aggression than females (McKinnon & Cross,

2008). Males and females may also experience different kinds of aggression. For

example, one meta-analysis found that women perceived more sex-based mistreatment

than did men (McCord, Joseph, Dhanan, & Beus, 2018). These studies support the

assertion that research examining workplace aggression should include a more

representative sample of males and females, as they may experience aggression differently.

Another potentially problematic issue with this research is that of common-method variance, which is "variance that is attributable to the measurement method rather than to the constructs the measures represent" (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003, p. 879). Correlations between all primary variables in this study were found to be significant (Table 1), which may be indicative of this measurement issue. Podsakoff and colleagues (2003) list several possible sources of common-method variance that may have affected my results. First, independent, dependent, and mediator variables were collected from a single source, which may increase the likelihood of finding significant correlations between variables. While collecting responses from outside raters may be a valuable way to gather objective ratings of the measures in some studies, it was less feasible in this research due to the nature of the constructs. For example, SDT variables (Deci & Ryan, 2002) measure one's perceptions of autonomy, relatedness, and competence. It is not possible for a rater other than the participant to respond to these types of self-perceptual items. Another potential source of common-method variance is that all variables were measured at the same time, which may decrease the independence of one variable from another (Podsakoff et al., 2003). Participants were asked to respond to items based on their experiences over the previous three months, but responded to all of the items measuring these experiences at one time point. This may have led participants to respond similarly to different measures.

There were several details in the design of this study that were included in an attempt to decrease common-method variance. For example, items were ordered so that participants first responded to questions assessing well-being and perceptions of psychological needs before completing the aggression measures. Had participants been instructed to think about experienced aggression at work first, that might have put the respondent in a mood that could have decreased self-reported well-being and perceptions of psychological needs.

Although the correlations between predictor, mediator, and outcome variables raised suspicions of common-method variance, other findings may indicate that this issue is not problematic in this research. For example, although findings were not significant, when examining each psychological need, different proportions of variance were accounted for by the specific aggression sources.   Also, mediation was only found for job-related well-being and not general well-being, and was dependent on the source and mediator. These findings also suggest that common method variance may not explain the research findings. Nevertheless, future studies may wish to address better issues of common method variance by collecting longitudinal data, and perhaps using more objective measures of well-being, such as physiological measures.

Several other limitations may have affected the ability to find more significant results.   The scale measuring relatedness, for example, had a moderately low alpha coefficient of .65, which falls below the generally accepted cut-off of .70 (Nunnally & Bernstein, 1994) and may explain why relatedness was not a mediator of relationships between workplace aggression and employee well-being. As mentioned earlier, scales

used to measure autonomy, relatedness, and competence may have been problematic in this research as correlations between scales were just as high or higher than the scales' internal consistency. A review of the reliability analyses highlighted two individual items that seemed to be problematic in this research. The item "when I am at work, I have to do what I am told" seemed to have produced a ceiling effect. That is, many participants indicated their agreement with that statement. Given the nature of the item these results aren't surprising, as participants are likely expected to complete their defined job tasks when at work and have limited autonomy. Another problematic item was "I pretty much keep to myself when I am at work", as it didn't seem to add anything useful to the construct; removal of the item would not change the scale-level alpha. This item had the highest standard deviation compared to other items in the scale, so it appears that the item is prone to varying and is inconsistent across participants in this sample. This inconsistency in responding may indicate that respondents did not all interpret the item the same. For example, those who agreed with the item may have done so thinking about the amount they communicate with coworkers, and those who did not agree with the item may have wondered how they can "keep to themselves" when they must interact with customers as part of their job. Future studies may wish to replicate this research using groups of respondents varying in their demographic groups (e.g., occupation, location, age, gender) to determine if there were characteristics of this particular sample that caused these problematic findings.

Finally, a last limitation of this research is the cross-sectional correlational design used for this study; while I can assert that certain variables were related to others of

interest, the correlational findings do not allow for a causal interpretation. That is, it is possible that the current findings reflect elements of reverse causality. Previous research has found, for example, that targets of bullying have higher levels of anxiety, fear, sadness, and anger which bullies perceive as vulnerability; it is this perception that makes these workers a desirable target for bullies (Coyne, Seigne, & Randall, 2000; Glaso, Matthiesen, Nielsen, & Einarsen, 2007). Similarly, the findings reported in this paper are consistent with mediation, but the current research unfortunately is not able to assess causal processes. Indeed, the methodology utilized in this research contributes to an inability to state with certainty that mediation occurred in the significant pathways. While researchers commonly use cross-sectional data to evaluate mediation, the use of this method for these analyses is highly criticized (Maxwell & Cole, 2007; Maxwell, Cole, & Mitchell, 2011). Mediation infers a causal process that unfolds over time. Because of the longitudinal nature of mediated relationships, data that is collected at a single time point is not a recommended practice as it can lead to erroneous conclusions. O'Laughlin (2018) provides recommendations for superior methods to evaluate mediation based on structural equation modeling of longitudinal data (Preacher, 2015), including cross-lagged panel analysis (Cole & Maxwell, 2003), latent growth curve analysis (Bollen & Curran 2006; McArdle, 2009) and latent difference score models (Ferrer & McArdle, 2003, 2010; McArdle, 2001, 2009). Future studies attempting to explain the relationship between workplace aggression and employee well-being should use more sound methods to test mediation processes.

Conclusion

Although there are limitations to this research, my findings lend support to considering the effects of workplace aggression through the lens of Self Determination Theory (Deci & Ryan, 2002). The results help explain the mechanisms through which job-related well-being is affected by customer and supervisor aggression. By understanding the pathways between workplace aggression and employee well-being, we can begin to develop methods to better predict an employee's risk of burnout or other deleterious effects on their health. Doing so may allow for early intervention, which may in turn decrease the negative effects of aggression. Perhaps more effectively, organizations may take a more proactive approach through potentially preventing (or lessening) negative outcomes of workplace aggression by building up workers' senses of autonomy and competence, in addition to taking actions to reduce exposure to workplace aggression (Kelloway et al., 2006). As aggression is a pervasive issue in the workplace (Park et al., 2018; Pizzino, 2002; Yragui et al., 2017), prevention may be necessary to protect an employee from suffering at the hands of customers, co-workers, and supervisors which may in turn lead to a healthier global workforce.

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Footnotes

[1]250 responses were included in the survey output but several were excluded from the dataset for the following reasons: Quit before beginning survey ($n = 13$), skipped more than 10% of items ($n = 6$), less than 10 minutes to complete ($n = 11$), completed survey twice ($n = 6$; first survey responses were retained), too short tenure in job ($n = 3$), too few shifts per week ($n = 2$), didn't follow instructions (responded based on two jobs; $n = 1$), careless responding (selected the same response for every item in the survey; $n = 1$).

[2]Maximum attainable points decreased by .25 part-way through the study, but this only affected time 2 of the study and therefore did not affect the research in this thesis.

[3]Correlations between scales were also calculated with unmodified univariate outliers and all multivariate outliers retained in the dataset, and were not found to differ significantly from values reported in Table 1.