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Validation of the Young Adult Relational Aggression Scale

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VALIDATION OF THE YOUNG ADULT RELATIONAL AGGRESSION SCALE

by

Caitlin M. Clark

A Dissertation

Submitted to the Graduate School,
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and the Department of Psychology
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August 2017

VALIDATION OF THE YOUNG ADULT RELATIONAL AGGRESSION SCALE

by Caitlin M. Clark

August 2017

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ABSTRACT

VALIDATION OF THE YOUNG ADULT RELATIONAL AGGRESSION SCALE

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Relational aggression has been associated with a host of negative correlates in previous studies of children, adolescents, and emerging adults. Further research is necessary for the purposes of identifying prevention and intervention strategies; however, research on relational aggression among emerging adults has been complicated by the lack of available psychometrically sound measures, particularly those that capture the proactive and reactive functions of relational aggression. The present study extended previous efforts to develop a new self-report measure of relational aggression for emerging adults called the Young Adult Relational Aggression Scale (YARAS). A confirmatory factor analysis (CFA) was performed using a sample of 402 college students. The predicted four-factor model of the YARAS was supported, though model re-specification was necessary to achieve adequate model fit. Adequate internal consistency was found for all scales. Evidence in support of convergent and discriminant validity was obtained through correlations of the YARAS scales with measures of theoretically related (i.e., alcohol-related problems, internalizing problems, psychopathy, and loneliness) and distinct constructs (e.g., physical aggression). The extent to which the YARAS adequately discriminates the reactive and proactive functions of aggression warrants additional study. Future directions for the development of the YARAS are discussed.

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CHAPTER I – INTRODUCTION

Aggression is a well-documented problem that is associated with a variety of negative social, psychological, financial, health, and safety costs (Corso, Mercy, Simon, Finkelstein, & Miller, 2007; Dahlberg & Krug, 2002). Aggression occurs in many forms, contexts, and settings, including schools, workplaces (Chappel et al., 2004; Kaukianenen et al., 2001), roadways (Dahlen, Edwards, Tubré, Zyphur, & Warren, 2012; Dahlen & White, 2006), peer, familial and romantic relationships (Follingstad et al., 2005; Kar & O’Leary, 2013; Storch, Bagner, Geffken, & Baumeister, 2004) and criminal justice settings (Patrick & Zempolich, 1998). Although aggression tends to conjure ideas of overt forms of physical aggression and violence that are undoubtedly destructive, there are other forms of aggression that also are cause for concern. Thus, the threat that aggression poses to both individual and public welfare is not to be taken lightly, as aggression in all of its forms constitutes an international public health concern. Accordingly, it is important to investigate the construct for the purposes of better understanding its impacts and developing treatment and prevention efforts.

Although aggression has been defined in several ways, psychologists generally define aggression as any act intended to harm another person who does not wish to be harmed (Anderson & Bushman, 2002; Baron & Richardson, 1994; Bushman & Anderson, 2001; Ostrov & Houston, 2008). This conceptualization of aggression has informed much of the psychological research on the construct. Notably, as Bushman and Huesmann (2010) pointed out, the aforementioned definition implies that aggression is an inherently social behavior between at least two people and is purposely engaged in for the express goal of causing hurt or harm. Thus, this definition is broad enough to capture

several manifestations of aggressive behavior, but limited enough to exclude those behaviors that are either unintentional (e.g., accidentally harming someone in a motor-vehicle accident) or meant to be helpful (e.g., a doctor performing a painful medical procedure on someone).

Most aggression researchers consider aggression to be a multidimensional construct that varies in terms of its form and its function (Little, Jones, Henrich, & Hawley, 2003; Ostrov & Houston, 2008). The form of aggression refers to the type of aggressive behavior, or the manner in which the aggressive behavior is expressed. Although several forms of aggression have been identified, most researchers agree that the various forms can be classified into one of two higher order forms. These classifications differ depending on the researcher, with some distinguishing between direct and indirect forms (e.g., Björkqvist, Lagerspetz, & Kaukiainen, 1992) and others between overt and relational forms (Crick & Grotpeter, 1995; Little et al., 2003). *Overt aggression* refers to aggression that is intended to cause harm to others via direct behaviors such as pushing, kicking, threatening, or insulting others, and thus encompasses physical and verbal expressions of aggression (Buss & Perry, 1992; Coie & Dodge, 1998; Little et al., 2003). *Relational aggression* is defined as aggression that causes harm via deliberate manipulation or damage (or threat to damage) to relationships, feelings of acceptance, friendship, group inclusion, or social status (Crick, 1995, 1996; Crick & Grotpeter, 1995, 1996; Crick et al., 1999; Ellis, Crooks, & Wolfe, 2009; Leff, Wassadorp, & Crick, 2010; Linder, Crick, & Collins, 2002; Werner & Crick, 1999).

The function of aggression refers to the intention of the aggressive behavior and can either be classified as proactive or reactive (Vitaro, Gendreau, Tremblay & Oligny,

1998). *Proactive aggression* includes behaviors that are unprovoked, premeditated and planned behavior performed for instrumental gain or pleasure (Dodge & Petit, 2003; Frick & Marsee, 2006; Marsee et al., 2011). Its roots lie in social learning theory.

Reactive aggression, on the other hand, refers to unplanned behaviors associated with emotional arousal that are a response to an emotional state or a perceived threat (Dodge & Petit, 2003; Poulin & Bouvin, 2000). Its roots lie in the frustration-aggression hypothesis.

Of the forms of aggression, overt aggression is the most widely studied, and its negative correlates have been well documented (e.g., Capaldi & Owen, 2001; Frankel & Simmons, 1985; Joussemet et al., 2008; Moore & Pepler, 2006; Nagin & Tremblay, 2001; O’Leary, Vivian, & Malone, 1992; Parrott & Giancola, 2006; Schumacher & Leonard, 2005; Straus & Ramirez, 2007). Additionally, most of the research on the subtypes of aggression has focused on physical aggression, with a considerable body of literature supporting the discriminant validity of proactive and reactive aggression as well as the importance of distinguishing between these subtypes for the purposes of treatment and intervention (e.g., Crick & Dodge, 1996; Day, Bream, & Paul, 1992; Little et al., 2003; Poulin & Boivin, 2000; Salmivalli & Nieminen, 2002). More recently, however, researchers have directed attention to other forms of aggression as a mounting body of evidence reflects that more subtle and indirect forms of aggression such as relational aggression may cause just as much harm as physical forms of aggression (Archer & Coyne, 2005).

Among children and adolescents, relational aggression has been associated with peer rejection, jealousy, loneliness, depression, destructive coping, antisocial behavior,

and physical aggression (Crick, 1996; Crick & Grotpeter, 1995; Crick & Nelson, 2002; Grotpeter & Crick, 1996; Sebanc, 2003; Sullivan, Farrell, & Kliewer, 2006). Many of the adverse correlates identified in younger samples have also been found in studies of emerging adults (e.g., Bagner, Storch, Preston, 2007; Prinstein, Boergers, & Vernberg, 2001), as well as correlates such as antisocial and borderline personality traits, bulimic symptoms, alcohol abuse, impaired prosocial behavior, and a variety of interpersonal problems (Czar, Dahlen, Bullock, & Nicholson, 2011; Linder, Crick, & Collins, 2002; Miller & Lynam, 2003; Ostrov & Houston, 2008; Prather, Dahlen, Nicholson, Bullock-Yowell, 2012; Storch, Werner, & Storch, 2003; Werner & Crick, 1999).

The distinction between reactive and proactive aggression has also been applied to the study of relational aggression, with findings supporting unique differences in personality traits, mental health symptomology, expectancies of aggressive behavior, cognitive attributions associated with aggressive stimuli, as well as other correlates (Bailey & Ostrov, 2008; Crick, 1995; Dodge, Lochman, Harnish, Bates, & Pettit, 1997; Nelson, Mitchell, & Yang, 2008). Given the negative outcomes associated with relational aggression, continued research in this area is clearly warranted for the purposes of treatment and prevention.

Despite the need for continued research on relational aggression, the lack of psychometrically sound measures of relational aggression has challenged the advancement of research in this area (Murray-Close, Ostrov, Nelson, Crick, Coccaro, 2010). First, there are few measures that distinguish between proactive and reactive subtypes of relational aggression, which is important in order to assess the unique correlates of each subtype and further the understanding of the motivations for relational

aggression (Dodge & Crick, 1991; Murray-Close et al., 2010). Second, most measures have been developed for use with early and middle childhood-age participants and rely on peer nomination, behavioral observation, and teacher reports to assess relational aggression (Crick, Ostrov, & Kawabata, 2007; Merrell, Buchanan, & Tran, 2006). This poses challenges for collecting data with older populations as well as when other informants are unavailable (Little et al., 2003). For instance, researchers and practitioners interested in measuring relational aggression in individual contexts like a clinical practice setting are limited by measures relying on other informants (Murray-Close et al., 2010). Additionally, available measures of relational aggression are mostly restricted to relational aggression toward peers and friends among children and adolescents (e.g., Crick & Grotpeter, 1995; Grotpeter & Crick, 1996). Finally, current measures of relational aggression do not contain content specific to electronic forms of communication and aggression. Given evidence that internet-based communication is increasingly relevant to the lives of North Americans, particularly among young adults (Correa, Hinsley, & de Zúñiga, 2010; Pempek, Yermolayeva, & Calvert, 2009), there is a need for measures that can effectively assess relational aggression in this context.

The purpose of the proposed study is to validate a new measure of relational aggression for college students that was developed in response to several of the aforementioned criticisms of current measures of relational aggression. Specifically, the Young Adult Relational Aggression Scale (YARAS) is a self-report measure that was designed to assess the proactive and reactive functions of peer relational aggression among college students. It was developed through focus groups with college students so that item content would be maximally relevant to this population and includes items

addressing electronic forms of relationally aggressive behavior. The initial phases in the process of developing the YARAS will be described in detail later in this document after the relevant literature has been reviewed.

Forms of Aggression

Overt aggression refers to behaviors that cause harm through verbal or physical means or by threatening physical harm (Coie & Dodge, 1998; Crick & Grotpeter, 1995; Little et al., 2003). Examples of overt aggression include acts of direct physical aggression such as hitting, punching, kicking, or pushing, as well as aggressive verbal behaviors such as name-calling or personal insults. Another defining feature of overt aggression is its confrontational nature, as it typically involves face-to-face interaction between the aggressor and the victim; thus the identity of the aggressor is evident (Little et al., 2003).

In contrast to overt aggression, relational aggression causes harm via deliberate manipulation or damage (or threat to damage) to relationships, feelings of acceptance, friendship, group inclusion, or social status (Crick, 1995, 1996; Crick & Grotpeter, 1995; Crick et al., 1999; Ellis, Crooks, & Wolfe, 2009; Leff et al., 2010; Linder, Crick, & Collins, 2002; Werner & Crick, 1999). Examples of relationally aggressive behaviors include spreading gossip to harm the victim's reputation, ignoring the victim (e.g., giving someone the "silent treatment"), threatening to end a relationship, public humiliation or embarrassment, and social exclusion or rejection (Crapanzano, Frick, & Terranova, 2010; Goldstein, Chesir-Teran, & McFaul, 2008a; Goldstein & Tisak, 2010; Gros, Stauffacher, & Simms, 2010; Kuppens, Grietens, Onghena, & Michiels 2009).

The literature on aggression is replete with debate regarding the distinctions among relational aggression, indirect aggression, and social aggression. Though there is significant overlap among these constructs, relational aggression is generally considered to be distinct from the others in some important ways. As defined by Björkqvist (1994), indirect aggression is aggressive behavior in which the identity of the perpetrator is concealed and is considered to reduce the consequences of aggression for the perpetrator. Per this definition, behaviors such as turning others against someone, spreading false information about someone, and socially excluding them constitute indirect aggression. Richardson and Greene (1997), on the other hand, defined indirect aggression as “any behavior aimed at the goal of harming another living being that is delivered circuitously, through another person or object.” This definition extended Björkqvist’s definition to include the use of objects as a means of aggressing against others. Per this definition, behaviors such as spreading rumors and destroying objects belonging to the target are considered forms of indirect aggression. As Björkqvist and colleagues (2001) noted, indirect aggression captures aggressive acts that are performed in a covert and circuitous manner. Relational aggression differs from these definitions of indirect aggression in a few ways. First, although relational aggression may be carried out covertly, it can also be perpetrated overtly, such as through direct threats to end the relationship if one does not do as the perpetrator asks (Archer & Coyne, 2005). Thus, the definition of indirect aggression is insufficient to account for the multiple expressions of relational aggression. Second, relational aggression focuses on utilizing relationships to cause harm, and thus does not include the use of objects as a form of aggression.

Relational aggression also differs from social aggression, which has been defined as behavior that harms one's acceptance or social status in one's peer group (Archer & Coyne, 2005; Galen & Underwood, 1997). Social aggression can be perpetrated covertly or in more overt, yet subtle ways such as eye rolling or directing negative facial expressions toward others (Capella & Weinstein, 2006), and emphasizes the role of the peer group in causing harm. Coyne and colleagues (2006) posited that indirect and relationally aggressive behaviors are all considered social aggression. However, others have argued that relational aggression subsumes socially aggressive behaviors as well as other more direct aggressive behaviors. Relational aggression, however, can be distinguished primarily from social aggression in terms of the relative necessity of the peer group as a context for aggression. Relational aggression may utilize the peer group as a context for aggression, but is not restricted to the peer group like socially aggressive behaviors. In fact, relational aggression can also be observed in dyadic relationships among peers, co-workers, and romantic partners. Furthermore, unlike social aggression, the emphasis of relational aggression is on harming or manipulating relationships. Although relational aggression is a unique construct, it overlaps considerably with these other types and is essentially a narrower focus on the same area of research (Archer & Coyne, 2005). Although several studies that investigate these various forms of aggression provide support for this study, this study will focus on relational aggression.

Functions of Aggression

In addition to distinguishing the different forms of aggression, researchers have highlighted the need to differentiate the functions of aggression (Little et al., 2003; Ostrov & Houston, 2008). The function of aggression refers to the objective or goal of

the aggressive behavior and can either be classified as proactive or reactive (Dodge, 1991; Stanford, Houston, Mathias, Villemarette-Pittman, Halfritz, & Conklin, 2003; Vitaro, Gendreau, Tremblay & Oligny, 1998). Proactive aggression, also referred to as premeditated, instrumental, predatory, or controlled aggression (e.g., Heilbrun et al. 1978, Coccaro, 1989, Atkins et al. 1993, Barratt et al 1997a; Vitaro, Brendgen, & Tremblay, 2002), is unprovoked, planned, and/or goal-directed and is typically performed with low autonomic arousal (Vitaro & Brendgen, 2005). Proactive aggression is explained by Bandura's Social Learning Theory (1973), which posits that aggressive behavior is reinforced by contingencies, or the expectation of reward following the aggressive behavior. Although proactive aggression is often intended for instrumental gain (e.g., acquisition of goods from others), it may also be motivated by a desire for dominance or sadism and may also be premeditated (Frick & Marsee, 2006; Marsee et al., 2011; Vitaro & Brendgen, 2005).

Reactive aggression, on the other hand, occurs as an unplanned, defensive, and often angry response to provocation, frustration, or a real or perceived threat in the context of high emotional arousal (Dodge, 1991; Dodge & Petit, 2003; Poulin & Bouvin, 2000; Vitaro & Brendgen, 2005; Vitaro, Brendgen, & Barker, 2006); however, it can also be impulsive and/or thoughtless (Frick & Marsee, 2006; Marsee et al., 2011). Reactive aggression has also been referred to as impulsive, affective, or non-planned aggression (e.g., Coccaro, 1989, Atkins, Stoff, Osborne, & Brown, 1993; Vitaro, Brendgen, & Tremblay, 2002). As explained by the Frustration-Aggression Model, reactive aggression is an outcome of frustration and other negative emotions triggered by one's goals being

thwarted (Berkowitz, 1982). The aggression then serves to defend oneself or harm the source of the frustration (Dollard, Doob, Miller, Mowrer, & Sears, 1939).

Despite some argument that proactive and reactive functions overlap too much to be considered distinct constructs (Bushman & Anderson, 2001), several studies support the distinction between proactive and reactive aggression (Crick & Dodge, 1996; Day, Bream, & Paul, 1992; Little et al., 2003; Pellegrini, Bartini, & Brooks, 1999; Poulin & Boivin, 2000; Salmivalli & Nieminen, 2003). The importance of distinguishing between proactive and reactive aggression is clearly supported by unique findings across research outcomes of physical aggression (Barratt et al., 2000). In fact, differences in social adjustment, emotional functioning, cognitive abilities, physiological arousal, and treatment response have been found among individuals who engage in either impulsive or premeditated aggression (Mathias et al., 2007). Accordingly, distinguishing between proactive and reactive subtypes of aggression has important implications for the etiology and treatment of aggressive behavior and disorders (Crick & Dodge, 1996; Barratt, Stanford, Felthous, & Kent 1997a; Vitaro, Brendgen, & Tremblay, 2002).

Although the distinction between proactive and reactive aggression has mostly been applied to physical aggression, it can also be applied to relational aggression. For example, threatening to end a relationship in order to gain compliance from one's partner with one's wishes constitutes proactive relational aggression, whereas giving someone silent treatment out of anger is considered reactive relational aggression. There is empirical evidence to support the importance of distinguishing these subtypes in relational aggression (e.g., Bailey & Ostrov, 2008; Crick, 1995; Crick et al., 2002; Dodge et al., 1997; Nelson, Mitchell, & Yang, 2008).

Adverse Correlates of Relational Aggression

Compared to other more overt forms of aggression (e.g., physical and verbal aggression), individuals may be more apt to utilize relational and other indirect forms of aggression because they causes less instrumental damage, are not associated with legal consequences, and are more socially acceptable (Archer & Coyne, 2005; Linder, Crick, & Collins, 2002; Richardson & Green, 1999). Moreover, relational aggression can be perpetrated in covert ways that often go unnoticed by others, thus resulting in fewer direct social repercussions due to preserving the anonymity of the aggressor (Goldstein, Young, & Boyd, 2008b). Although relational and indirect forms of aggression may be perceived as a more attractive alternative to more overt forms, they are not without consequence. In fact, a growing body of literature supports the harmfulness of indirect aggression and its capacity to inflict “considerable psychological harm to its victims” (Archer & Coyne, 2005, p. 233) that may be just as damaging as physical aggression (Archer & Coyne, 2005), and the literature on relational aggression specifically is replete with support for its harmful nature.

Several researchers have identified adverse correlates of relational aggression among children and adolescents. Victims of relational aggression have been found to experience higher levels of depression, anxiety, loneliness, delinquent behaviors, and social anxiety as well as lower levels of self-esteem compared to their non-victimized peers (Ellis et al., 2009; Prinstein et al., 2001; Sullivan, Farrell, & Kliewer, 2006). Victims of a related construct, indirect aggression, were found to experience significantly more destructive coping behaviors such as smoking cigarettes, suicidal ideation, and self-mutilation compared to victims of direct bullying (Olafsen & Viemero, 2000).

The perpetrators of relational aggression also appear to be at risk for adverse outcomes, with several studies showing that relationally aggressive children and adolescents experience greater social and emotional adjustment difficulties compared to their non-relationally aggressive counterparts. With regard to social adjustment, there is mounting evidence to suggest that relationally aggressive adolescents tend to be rated as popular by their peers (Mayeux & Cillessen, 2008; Rose & Swenson, 2009; Hawley, 2003) and have high social status (Hawley, 2003; Rodkin, Farmer, Pearl, & Van Acker, 2000). However, relationally aggressive children and adolescents also tend to also be disliked and rejected by their peers as well as experience more loneliness and isolation compared to their non-relationally aggressive peers (Cillessen & Borch, 2006; Crick & Grotpeter, 1995; Rose, Swenson, & Waller, 2004). Crick (1996) found that relational aggression was associated with decreasing rates of peer acceptance across time. In addition to poor social group relations, the quality of relationally aggressive children's friendships also appears to suffer. Crick and Grotpeter (1995) found high levels of intimacy, exclusivity, jealousy, and relational aggression within the friendships of relationally aggressive children. Thus, relational aggression appears to be associated with some social advantages for children and adolescents such as greater social status, but also appears to be associated with social consequences such as low likability by peers and poor quality friendships.

In addition to social consequences, relational aggression is associated with a host of internalizing and externalizing problems among children and early adolescents, including depression, anxiety, Attention-Deficit Hyperactivity Disorder, Oppositional-Defiant Disorder, drug and alcohol use, delinquency and antisocial behavior, overt

aggression, physical and relational aggression, impaired prosocial behavior, as well as narcissistic and antisocial personality traits (Crick 1996, 1997; Crick & Grotpeter, 1995; Crick, Ostrov, & Werner, 2006; Keenen, Coyne, & Lahey, 2008; Linder et al. 2002; Marsee et al., 2005; Sullivan et al., 2006; Werner & Crick, 1999; Zalecki & Hinshaw, 2004). Even those who are not victims or perpetrators of relational aggression have been found to be negatively affected, as Goldstein and colleagues (2008b) found that seventh through twelfth grade students exposed to relational aggression were more likely to perceive the school environment as unsafe, and that male students with greater exposure to relational aggression indicated more likelihood of bringing a weapon to school. Thus, relational aggression poses several risks to the psychosocial adjustment and mental health functioning of children and early adolescents, and has reverberating effects on individuals who witness it, independent of their involvement in the behavior. These findings underscore the importance of continued efforts to understand and address relational aggression.

Relational Aggression in Late Adolescents and Emerging Adults

Most studies of relational aggression and victimization have focused on children and early adolescents; however, late adolescents and emerging adults (i.e., ages 18-25) are beginning to receive more attention. It is becoming increasingly clear that relational aggression and victimization continue to be salient experiences during this age range. For example, early investigations of indirect aggression among older samples found that adolescents and young adults endorse utilizing relational aggression (Bjorkqvist et al., 1992; Bjorkqvist, Osterman, & Lagerspetz, 1994).

Examining relational aggression among older adolescents and emerging adults is important for several reasons. First, emerging adulthood can be characterized as a unique transitional period that differs quantitatively and qualitatively from childhood and early adolescence. Specifically, emerging adults undergo social, biological, and cognitive changes, including increased autonomy and independence from caregivers, identity formation, increased reliance on peer and romantic relationships for support, increased engagement in risk-taking behaviors, as well as changes in moral reasoning and cognitive flexibility (Arnett 2000; Spear, 2000; Storch et al., 2004). Moreover, personality traits appear to become more salient during emerging adulthood, and as a result, personality disorders are more likely to manifest during this developmental stage (Johnson et al., 2006). Considering the unique developmental processes and tasks of emerging adulthood, it is reasonable to expect that relational aggression has great potential to negatively impact adjustment during this time in ways that might be distinct from younger populations.

Another reason to investigate relational aggression among older adolescents and emerging adults relates to the potential for unique manifestations of relationally aggressive behaviors in different age groups. One might expect that relational aggression manifests differently among emerging adults than children and early adolescents given the increase in planning abilities and social sophistication that occurs during the transition from early adolescence to later adolescence and emerging adulthood (Cillessen & Mayeux, 2004). Indeed, Coyne and colleagues (2006) posit that adults are likely to use more covert and surreptitious relationally aggressive behaviors compared to children who tend to utilize more direct and overt forms of relational aggression. Additionally, due to

the salience of romantic relationships in older adolescents and emerging adults (Furman & Buhrmester, 1985), relational aggression is relevant to both peer and romantic relationships in older populations.

In addition to changes in the types of relationally aggressive behaviors, the relevance of gender to relationally aggressive behavior appears to change from childhood and adolescence to late adolescence and adulthood. Specifically, several studies document gender differences in relational aggression in children and early adolescents with most findings supporting the notion that relational aggression is primarily a female form of aggression given its higher prevalence among girls compared to boys (see Crick et al., 2007 for a review). By contrast, these differences do not appear as salient among late adolescents and adulthood. Several studies among older adolescents and young adults have found no gender differences in relational aggression (e.g., Bailey & Ostrov, 2008; Basow et al., 2007; Burton, Haffetz, & Henninger, 2007; Dahlen, Czar, Prather, & Dyess, 2013; Loudin, Loukis, & Robinson, 2003; Verona, Sadeh, Case, Reed, & Bhattacharjee, 2008); others have found that men report higher levels of relational aggression and victimization than women (e.g., Linder et al., 2002; Murray-Close et al., 2010). These findings challenge the popular assumption that relational aggression is primarily a female form of aggression, and suggest that gender differences in relational aggression may not persist past early adolescence, or are at least more nuanced among older adolescents and emerging adults. Given the aforementioned differences between younger populations (i.e., children and early adolescents) and older adolescents and emerging adults, findings from studies of relational aggression among children and early adolescents cannot be presumed to translate to older adolescents and emerging adults. Thus, research that

investigates relational aggression among older adolescents and emerging adults is warranted.

Despite the necessity for research on relational aggression in older adolescents and emerging adults, the literature base remains scant with regard to this population (Schmeelk, Sylvers, & Lilienfeld, 2008). The available literature, however, includes evidence that relational aggression has similarly negative correlates among adolescents and young adults as those found among younger populations. For instance, Weiner and colleagues (2003) found that relational victimization was associated with higher rates of gateway drug use among both early and late adolescents (i.e., 8th, 10th, and 12th grade students). Additionally, Twenge, Catanese, and Baumeister (2002) found that social exclusion, a behavior related to relational aggression, was associated with self-defeating behaviors among a sample of thirty-one undergraduate students. Relational victimization has also been associated with depressive symptoms and increased alcohol use among older adolescents ages fifteen to eighteen (Schad, Szwedlo, Antonishak, Hare, & Allen, 2008). Dahlen and colleagues (2013) also identified higher levels of depression and alcohol-related problems among college students reporting high levels of relational aggression victimization in their peer and romantic relationships. Additionally, they found that relational victimization was associated anxiety, stress, loneliness, and academic burnout. Romantic victimization, or being the target of relational aggression from a romantic partner, in particular, was associated with low emotional and social support from peers. Taken together, these findings suggest that relational victimization is also harmful among older adolescents and emerging adults.

Older adolescent and emerging adult perpetrators of relational aggression also appear to experience a host of internalizing and externalizing problems. Werner and Crick (1999) investigated the relationship between relational aggression and social-psychological adjustment among 255 undergraduate students who were members of a sorority or fraternity. They utilized a peer-nomination measure to assess relational aggression among participants. Findings included associations between peer-estimated relational aggression and a variety of adverse correlates, including peer rejection, antisocial personality features, borderline personality features, low levels of prosocial behavior, anger problems, poor interpersonal functioning, impulse-control difficulties, and self-destructive behaviors among men and women. Among women but not men, they found that relational aggression was associated with bulimic symptoms. They further found modest correlations between relational aggression and depressive symptoms and lower levels of life satisfaction, including sadness, negative outlooks on the future, and low positive emotional experiences for women but not men. They concluded that relational aggression appears to have similar correlates among emerging adults as those found in younger samples.

Several studies have further elucidated the links between relational aggression and psychosocial functioning among older adolescents and college students. Storch and colleagues conducted two separate studies on relational aggression among undergraduate students (Storch et al., 2003; Storch et al., 2004). In the 2003 study, 105 athletes completed peer-nomination measures of relational aggression. Scores from these measures were examined in relation to scales on the Personality Assessment Inventory (PAI) that assessed depressive symptoms, problematic alcohol use, perceived social

support, as well as borderline and antisocial personality features. Compared to their opposite gender counterparts, higher rates of self-reported alcohol use and lower rates of prosocial behavior were found among relationally aggressive women, and higher rates of peer rejection were found among relationally aggressive men.

In their 2004 study, Storch and colleagues utilized a self-report measure of relational aggression to examine the associations between overt and relational aggression, anxiety, loneliness, depressive symptoms, and alcohol and drug use among 287 undergraduate students. They also examined gender differences in aggressive behavior. Men in the study reported more overt and relational aggression compared to women. Loneliness, depressive symptoms, and alcohol and drug use were associated with overt and relational aggression for the combined sample; however, only alcohol was significantly associated with overt aggression in men. By contrast, women's overt and relational aggression uniquely predicted loneliness, depression, and social anxiety. Further, relational aggression, but not overt aggression, uniquely predicted alcohol and drug use problems for women. The findings from these studies provide further evidence of the similarity of correlates of relational aggression across different age groups. They also challenge notions that relational aggression is problematic for women but not for men.

In addition to findings of similar correlates in different age groups, the literature on relational aggression among older adolescents and emerging adults includes evidence of the relevance of personality variables to relational aggression. For instance, Loudin and colleagues (2003) sought to determine if relational aggression was associated with fear of negative evaluation and lack of empathic concern among college students. Using a

sample of 300 undergraduate college students, they found that fear of negative evaluation and perspective taking uniquely predicted relational aggression. Specifically, they found that greater perspective taking was negatively associated with relational aggression for both men and women. Among men, those who reported more overtly aggressive behavior and fear of negative evaluation also engaged in more relationally aggressive behaviors than their non-relationally aggressive peers. Furthermore, lower levels of empathic concern were positively associated with relational aggression for male participants only. These findings show that how college students relate to others (e.g., fearful, empathic) are relevant in predicting relationally aggressive behavior, particularly among males.

Of particular interest to researchers of relational aggression among older adolescents and emerging adults are psychopathic personality traits. Several studies include findings that psychopathic personality traits are indeed associated with relational aggression among older adolescents and emerging adults (Marsee, Silverthorn, & Frick, 2005; Miller & Lyman, 2003). Other studies have investigated this association more closely. For example, Schmeelk and colleagues (2008) examined the relationship between relational aggression and Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; American Psychiatric Association, 2000) personality disorders and psychopathy among a sample of 220 undergraduate students. They found that relational aggression was associated with all three clusters of personality disorders (i.e., A, B, and C), but more so with features of cluster B personality traits. They further found that relational aggression was associated with features of psychopathy for factor two traits (i.e., impulsivity, absence of long term plans, poor frustration tolerance), but not

factor one traits (i.e., lack of empathy or remorse, callousness, manipulative tendencies, dishonesty), after controlling for overt aggression.

Drawing from the aforementioned studies of relational aggression and psychopathic personality traits, Czar and colleagues (2011) examined the ability to predict peer and romantic relational aggression based on primary and secondary psychopathic personality traits among a sample of 291 college students. They found that students with higher levels of psychopathic traits were more likely to endorse peer and romantic relational aggression, independent of self-reported physical aggression. They further found that primary psychopathic traits and secondary psychopathic traits (i.e., factor one and factor two psychopathic traits) accounted for variance in peer and romantic relational aggression beyond that explained by physical aggression. These results suggest that psychopathic personality traits have utility in the prediction of relational aggression among emerging adults.

In addition to psychopathic personality traits, traits based on the Five Factor Model (FFM) of personality (Costa & McCrae, 1992) have been associated with relational aggression. Burton and colleagues (2007) examined personality and emotional correlates of relational aggression among a sample of 134 undergraduate students. Participants completed a self-report measure of personality traits based on the FFM as well as self-report measures of depression, anxiety, emotional functioning (e.g., empathy, assertiveness), physical aggression, and relational aggression. They further evaluated gender differences. They found that relational aggression was related to lower levels of agreeableness and poor emotional functioning for both genders. With regard to gender differences, they found higher levels of neuroticism among relationally aggressive men

and low levels of conscientiousness, empathy, and social responsibility among relationally aggressive women. Deason (2015) further investigated the utility of the FFM in predicting relational aggression in college students, along with other variables such as emotional stability, social anxiety, and rejection sensitivity. Findings showed that agreeableness predicted relational aggression, and that social anxiety accounted for additional variance in relational aggression above and beyond the FFM. Thus, it appears that personality characteristics are relevant to relational aggression, though the utility of personality traits in predicting personality traits has not been clearly established.

Relational aggression also appears to be associated with social-cognitive factors among early adolescents and young adults, with findings from studies indicating the relevance of normative perceptions of relational aggression to relationally aggressive behavior. For example, You and Bellmore (2014) examined factors that contribute to individuals' responses to witnessing relational aggression. Using a sample of 228 undergraduate college students, they found that witnessing relational aggression was related to college students' behavioral responses to relational aggression via normative beliefs about relational aggression and susceptibility to peer influence. Specifically, they found that students who believed relational aggression was less acceptable were more likely to respond with defending behaviors when witnessing relational aggression. Conversely, students who believed relational aggression was more acceptable were more likely to engage in on-looker behaviors as well as engage in more reinforcing and assisting behaviors. Thus, students who were more accustomed to observing relational aggression in their peer groups were less likely to intervene on behalf of the victim. Those who were less likely to intervene also endorsed higher levels of susceptibility to

peer influence. The authors suggested that persons who are more affected by their peers may be more likely to align with aggressors' behavior so as not to disrupt their relationship with the aggressors, particularly given previous evidence that aggressors tend to be socially dominant and popular (e.g., Cillessen & Mayeux, 2004; Mayeux, 2014). Although the majority of research on relational aggression indicates its implications for individual mental health, You and Bellmore's findings showed that even persons who do not engage in relational aggression can contribute to its harmful effect on victims by failing to intervene. Other studies provide evidence for the role of normative perceptions and beliefs about the acceptability of relational aggression in predicting engagement in relationally aggressive behavior in peer and romantic contexts (e.g., Goldstein et al., 2008; Werner & Nixon 2005). Taken together, findings from these studies indicate that social-cognitive factors contribute to emerging adults' responses and engagement in relationally aggressive behavior.

Although the majority of studies on relational aggression have focused on peer relationships to the exclusion of relational aggression in intimate or romantic partnerships, a handful of studies among older adolescents and emerging adults provide evidence that relational aggression in romantic relationships also exerts an exacting toll on psychological adjustment. Specifically, correlates such as anxiety, depression, alcohol and drug use, stress, trait anger, partner distrust, jealousy, poor relationship quality, delinquent behavior, loneliness, negative self-perceptions (i.e., worthlessness) (Bagner, Storch, & Preston, 2007; Dahlen et al., 2013; Ellis et al., 2009; Goldstein et al., 2008a; Linder et al., 2002). Although peer and romantic relational aggression had many of the same correlates, the results of these studies indicate the value of examining romantic

relational aggression separately from peer relational aggression given that both appear to be uniquely associated with adverse correlates.

Correlates of Reactive and Proactive Relational Aggression

Although researchers have made progress toward better understanding relational aggression among older adolescents and young adults, most studies do not account for the different functions of aggression, despite evidence that proactive and reactive functional subtypes of overt and relational aggression constitute valid constructs (Little et al., 2003; Vitaro et al., 2002) and that there is utility in examining both form and function of aggression in childhood and adolescence (Marsee & Frick, 2007; Ostrov & Crick, 2007; Prinstein & Cillessen, 2003). There is mounting evidence that reactive and proactive functions of aggression are differentially associated with social, emotional, cognitive, and behavioral correlates, thus suggesting the utility of distinguishing between these functions of aggression (e.g., Bailey & Ostrov, 2008; Crick, 1995; Crick & Dodge, 1996; Dodge et al., 1997; Orobio de Castro, Merk, Koops, Veerman, & Bosch, 2005). As noted by Mathieson and Crick (2010), “A better understanding of how subtypes of aggression are differentially linked to adjustment difficulties is needed, both to develop a theoretical understanding of aggression and for practical reasons” (pg. 602). Although the functions of aggression have primarily been examined as they pertain to physical aggression, there is empirical support for importance of distinguishing the functions of relational aggression (e.g., Bailey & Ostrov, 2008; Crick, 1995; Dodge et al., 1997; Nelson et al., 2008; Prinstein & Cillessen 2003).

Mathieson & Crick, 2010 investigated the relationship of reactive and proactive subtypes of physical and relational aggression to adjustment problems in a sample of 125

elementary-school children. They utilized a longitudinal design to measure reactive and proactive physical and relational aggression as well as internalizing and externalizing problems of children in third grade and then again in fourth grade. They found that reactive relational aggression was associated with both internalizing and externalizing problems, but more strongly with internalizing problems. Moreover, reactive relational aggression was uniquely associated with internalizing problems. Proactive relational aggression, on the other hand, was more strongly associated with externalizing problems compared to reactive relational aggression. Both proactive and reactive physical aggression were associated with externalizing problems. They additionally found that aggression subtypes did not account for any changes in adjustment from Time 1 to Time 2, with the exception of proactive relational aggression which was associated with decreases in internalizing problems over time. They concluded that failing to distinguish the functional subtypes of aggression could mask potential differences in adjustment difficulties. This study demonstrates the relevance of the functional subtypes of aggression, and relational aggression in particular, among children.

Other studies further demonstrate the relevance of functional subtypes of relational aggression among children and adolescents (e.g., Ostrov & Crick, 2007; Marsee & Frick, 2007; Walcott, Upton, Bolen, & Brown, 2006). For example, in a study of detained girls ages twelve to eighteen ($N=58$), Marsee and Frick (2007) found that girls who reported higher levels of proactive relational aggression also had higher levels of callous-unemotional traits and positive expectations for aggressive behavior compared to their peers, while girls who reported higher levels of reactive relational aggression indicated more anger toward perceived provocation and emotion regulation difficulties.

These results further support the differential relationships of functional subtypes as well as underscore the relevance of these functional subtypes in both early and late adolescents.

A few studies have accounted for the functional subtypes of relational aggression among adults. Lento-Zwolinski (2007) examined reactive overt and relational aggression among 329 college students. Among their results, they found that reactive relational aggression was uniquely associated with relationship exclusivity in women and associated with less prosocial behavior among both men and women. Bailey and Ostrov (2008) also examined proactive and reactive physical and relational aggression in a sample of 165 undergraduates. Although men reported more engagement in proactive and reactive overt aggression than women, no gender differences were found regarding relational aggression. Participants who reported engagement in reactive relational aggression also indicated greater likelihood to attribute hostile intent to situations with ambiguous relational cues, thus suggesting that the mechanisms of relationally aggressive behavior may depend on its functional subtype.

Ostrov and Houston (2008) also found support for differential associations of both forms and functions of aggression among young adults. They examined the association between forms and functions of aggression and pathological personality features, including psychopathic, borderline, and antisocial personality traits in a sample of 679 emerging adults and found that relational aggression, but not overt aggression, was associated with borderline personality traits, thus supporting the utility of differentiating forms of aggression. Their results additionally included differential associations of functional subtypes of aggression and pathological personality features. For instance,

reactive relational and overt aggression were associated with indices of poor impulse control, including impulsive aggression, antisocial behavior, and borderline personality features. Proactive relational and overt aggression, on the other hand, were associated with psychopathic personality features. Proactive relational aggression, but not reactive overt aggression, also predicted antisocial personality features.

Inconsistencies in the Literature

Taken together, the available research on relational aggression clearly indicates its harmful nature among across several developmental periods, including older adolescence and emerging adulthood, and that relational aggression may be particularly harmful among older adolescents and emerging adults given its presence in both peer and romantic relationship contexts. Further, findings from previous studies indicate that that the distinction between reactive and proactive relational aggression is relevant to the psychosocial functioning of relationally aggressive individuals.

Despite the aforementioned general trends in the research on relational aggression, there appear to be some inconsistencies worth examining. For example, relational aggression has been associated with peer rejection and egocentricity (Werner & Crick, 1999), but has also been associated with higher rates of peer group exclusivity (Lento-Zwolinski, 2007). Relatedly, relational aggression has been associated with higher levels of intimacy in relationships, and although relationship intimacy is considered a characteristic of positive relationships (Fletcher, Simpson, & Thomas, 2000), relationally aggressive individuals report lower quality relationships than their non-relationally aggressive peers (Murray-Close & Crick, 2006; Werner & Crick, 2009). Another area of inconsistency relates to the relationship between prosocial behavior and relational

aggression. Although prosocial behavior would intuitively seem to be negatively related to relational aggression, some studies have found that relationally aggressive emerging adults are more likely to engage in prosocial behavior compared to their non-relationally aggressive counterparts (Puckett, Aikins, & Cillessen, 2008). It has been theorized that persons who are socially adept and utilize prosocial behavior are more likely to be rewarded for their use of relationally aggressive behavior (e.g., achieve the goals of their relationally aggressive behavior), and that persons who simultaneously engage in prosocial behavior and relational aggression are more likely to benefit socially, such as through increased popularity (Puckett et al., 2008). Although this explanation seems plausible, it is not supported by other research findings. For instance, relationally aggressive young adult males have been found to demonstrate lower levels of prosocial behavior, empathic concern, and perspective-taking skills compared to their non-relationally aggressive counterparts (Lento-Zwolinski, 2007). Thus, the reasons for these inconsistencies remain unclear.

Finally, there are inconsistent findings regarding gender differences in relational aggression. Although gender differences appear to be less salient in the literature among older adolescents and young adults compared to the literature among children (Crick et al., 2007), there are several exceptions to these findings, with some studies demonstrating no gender differences (e.g., Bailey & Ostrov, 2008; Basow et al., 2007; Burton et al., 2007; Loudin et al., 2003) and others showing that males are more relationally aggressive than females (e.g., Storch et al., 2004). The need to investigate or resolve these inconsistencies through additional research is warranted; however, it is worth examining reasons that these inconsistencies exist in the first place.

One plausible explanation for some of the inconsistencies in the literature concerns the various measurement strategies that have been employed to assess relational aggression (Ostrov & Godleski, 2007). Indeed, the demand for research on relational aggression has superseded the efforts devoted toward developing psychometrically sound measures. Thus, researchers have used inconsistent and often poorly designed forms of measurement. Such inconsistencies in measurement can yield inconsistencies in findings and inhibit comparison of the results. This issue parallels that examined by Archer (2004) in a meta-analysis of indirect aggression. The results of the meta-analysis included similar inconsistencies in gender differences as those found in research on relational aggression. Archer concluded that measurement strategies may be to blame, noting that studies employing observational, peer rating, and teacher-report methodologies found that females were more aggressive than males, whereas studies utilizing self-report data or peer nomination methods found no significant gender differences. Thus, inconsistencies in the literature might be an artifact of measurement issues.

Despite some inconsistent findings across the literature on relational aggression, the available data clearly indicates that there is a need for additional research on relational aggression to elaborate the understanding of the construct and develop prevention and intervention strategies relevant to older populations. Accordingly, it is worth addressing some of the barriers, particularly that pertain to the measurement of relational aggression, that researchers face in advancing the study relational aggression and its subtypes among older adolescents and emerging adults.

Measurement of Relational Aggression in Emerging Adults

A primary obstacle inhibiting research on relational aggression among emerging adults is the lack of psychometrically sound measures, a problem that persists despite multiple suggestions on how to measure the construct (Murray-Close et al., 2010). For instance, researchers are advised to differentiate the functions of relational aggression (i.e., proactive and reactive), due to factor analytic research that supports the distinction between these two functional subtypes (Poulin & Boivin, 2000) and findings that proactive and reactive relational aggression are differentially associated with a number of correlates (e.g., Little et al., 2003; Mathieson & Crick, 2010; Marsee & Frick, 2007). Failure to examine these functions could be another factor responsible that leads to invalid conclusions or inconsistencies in research findings on relational aggression. Understanding the subtypes of aggression and developing appropriate intervention efforts hinges upon research that utilizes valid measures of aggressive subtypes.

Yet another concern for the measurement of relational aggression includes the utility and validity of available measures for use with older adolescents and emerging adults. As Goldstein and colleagues (2008a) noted,

Given that the topography of relationally aggressive behavior changes throughout development (e.g., Archer & Coyne 2005), one task for researchers focusing on later developmental periods is to adapt measures so that they are developmentally salient...It is critical to include these types of items in measurement for the sake of maintaining ecological and developmental validity (p. 262).

One issue that inhibits the development of psychometrically sound measures of relational aggression includes debate regarding the most valid methods for assessing the

construct (e.g., observational, lab studies, self-report, peer-nomination) (Crick, Ostrov, & Kawabata, 2007; Werner & Crick, 1999). Observational methods, which are commonly used among children (Ostrov & Godleski, 2007), are an attractive measurement strategy to assess relational aggression because these methods are intended to measure behaviors directly in the context in which they occur. While observational methods are relatively easy and advantageous to use with children, they are of limited utility for the assessment of relational aggression among older adolescents and emerging adults for several reasons. First, because relational aggression is manifested in many nuanced and covert behaviors among older adolescents and emerging adults, these behaviors may be obscured from the observer. Thus, these methods better favor the study of more overt expressions of relational aggression that can be observed in naturalistic settings, such as with children in schools (Ostrov & Godleski, 2007). Second, observational methods are challenged by inter-rater reliability issue that may require in-depth training of observers to overcome (Underwood, Galen, & Paquette, 2001). This issue is particularly salient for the study of relational aggression, given its various expressions across the lifespan and the challenges of clearly defining it compared to other forms of aggression, such as social or indirect aggression. For these reasons, measures that utilize observational measurement methods are inappropriate for the study of relational aggression among older adolescents and young adults.

An alternative to observational methods includes sociometric techniques (e.g., peer nomination, peer rating, and peer ranking). Commonly utilized among school-age children and early adolescents, sociometric techniques are intended to measure multiple informants' perceptions of an individual's behavior, which posits some advantages for

the measurement of relational aggression given that it is a socially embedded behavior (Merrell et al., 2006). Further, like observational methods, sociometric techniques also offer the advantage of measuring social behavior such as relational aggression directly in the social context in which it occurs.

Werner and Crick (1999) developed a 24-item peer nomination measure of relational aggression for use with college students called the Relational Aggression Questionnaire. The instrument included subscales for aggressive behavior, prosocial behavior, and peer sociometric. The seven relational aggression items on the scale were adapted from measures used among children and early adolescents (e.g., Crick, 1995; Crick & Grotpeter, 1995) or developed based on findings from a previous study of relational aggression among college students by Morales and colleagues (1999). In their initial study using this measure, Werner and Crick (1999) administered the instrument to college students in Greek organizations along with various other indices of psychosocial adjustment. They reported a Chronbach alpha of .87 for the relational aggression subscale, suggesting high reliability, and found similar associations between relational aggression and correlates previously identified in the literature on relational aggression in children, thus providing some support for the construct validity of the measure; however, psychometric data on the measure is limited.

Despite the apparent utility of Werner and Crick's peer nomination measure of relational aggression, their measure is associated with several limitations common to sociometric techniques. First, Werner and Crick's (1999) peer nomination measure offers limited utility with older adolescents and emerging adults due to the vast array of social contexts in which older adolescents and college students tend to participate (Hadley,

2003; Merrell et al., 2006). Although some older adolescents and emerging adults might affiliate with organized groups such as Greek organizations, athletic teams, or academic clubs, these organizations might not comprise individuals' primary social group (Crothers, Schreiber, Field, & Kolbert, 2008; Underwood, 2003), and thus might be insufficient contexts in which to evaluate relational aggression. Additionally, as noted by Werner and Crick (1999), data from older adolescents and emerging adults who participate in specific Greek organizations might not generalize to non-affiliated older adolescents and emerging adults. Werner and Crick (1999) suggest that future studies utilize the measure among other social groups, such as college freshman living in the same dorm; however, doing so would not remediate the threats to generalizability that measuring relational aggression in highly specific groups poses.

The use of sociometric techniques beyond childhood and early adolescence is further complicated by the relative lack of teacher and parental involvement in older adolescents' and emerging adults' social interactions (Crothers et al., 2008). Although sociometric techniques such as obtaining data from persons who have salient roles in young adults' lives could help overcome this barrier (e.g., romantic partners, close friends), this measurement method poses practical challenges. For example, in clinical settings, older adolescents or emerging adults might not be accompanied by significant others who can complete such measures as would likely be the case for their younger counterparts (Murray-Close et al., 2010). Additionally, whereas other informants of younger children and early adolescents are relatively accessible to researchers (e.g., at school), the broad social milieu of older adolescents and emerging adults limits the accessibility of other relevant informants. Furthermore, as Underwood and colleagues

(2001) noted, participants often rely on gender stereotypes in their evaluation of others' aggressive behaviors, which can in turn threaten the validity of the data obtained from sociometric techniques. Thus, sociometric techniques pose both practical and psychometric limitations among older populations.

Self-report measures are an alternative to observational and sociometric measurement methods that offer several advantages. First, researchers are able to obtain information regarding a wider array of variables, including those into which other informants might not have insight. For example, researchers can assess more covert forms of relational aggression of which other informants might not be aware. This advantage is particularly relevant to the assessment of relational aggression among older adolescents and emerging adults given the more covert nature of relational aggression in this age group (Archer & Coyne 2005). Additionally, researchers are able to assess other internalized variables of which others would not be privy. An important example of such an internalized variable includes the function of an individuals' relational aggression. Because the intentions of someone cannot be known without asking them, self-report measures are necessary to capture data related to the functional subtypes of relational aggression. Other advantages of self-report measures include their cost-effectiveness, relatively shorter administration time, suitability for online administration, and lesser amount of required direct involvement of the researcher(s) in data collection researchers (such as would be necessary for observational methods). Compared to observational or sociometric methods, self-report questionnaires are likely to require less time, energy, and resources of the researchers (Crothers et al., 2008; Merrell et al., 2006).

The use of self-report measures has been applied to the study of relational aggression. While it has been argued that participants that complete self-report measures are likely to under-report the frequency of their engagement in relationally aggressive behaviors (e.g., Merrell et al., 2006), others argue that this is not of significant concern (Buss & Perry, 1992; Williams, Paulhus & Hare, 2007). There are a handful of self-report measures that are currently used to assess relational aggression among older adolescents and emerging adults; however, a review of these measures reveals that there are multiple areas for psychometric improvement.

In an effort to develop a self-report measure of relational aggression, some researchers have adapted the peer-nomination measure designed by Werner and Crick (1999) to a self-report format by re-wording the items (e.g., Basow et al., 2007). However, there remains no evaluation of the psychometric properties of the self-report format of this measure. Furthermore, this measure does not account for the functional subtypes of relationally aggressive behavior.

Another self-report measure includes the Personal Experiences Questionnaire (PEQ) that was designed by Baslow and colleagues (2007) for use in a study examining relational aggression among other variables in college students. The measure contained a total of twenty-six items that pertained to relational aggression (14 items), physical aggression (6 items), and prosocial behavior (6 items). The items were adapted from peer-nominated instruments of aggression and social behaviors (Crick & Grotpeter, 1995; Werner & Crick, 1999). Half of the relational aggression and physical aggression items assessed perpetration, while the other half assessed victimization. Basow and colleagues (2007) reported the alpha coefficients of the relational aggression perpetration items as

.79, the relational aggression victimization items as .81, the physical aggression perpetration items as .68, and the physical aggression victimization items as .65. Thus, the relational aggression scales on the PEQ appear to have good internal consistency, and the internal consistency of the physical aggression scales appears to be adequate. The PEQ also reflects recommendations on the measurement of relational aggression, including the assessment of both relational aggression perpetration and victimization. However, the PEQ item content was based on measures designed for use with children and early adolescents, and therefore might not adequately capture the unique manifestations of relational aggression among older adolescents and emerging adults. Additionally, its psychometric soundness is unsubstantiated due to the unavailability of any psychometric data besides internal consistency on the measure.

Another measure used in research on relational aggression is the Young Adult Social Behavior Scale (YASB; Crothers et al., 2008). The 14-item measure was developed for use with 18 – 25 year olds with item content based on verbal descriptions of peer conflict obtained from a sample of adolescent girls in a previous qualitative study by Crothers and colleagues (2005). The measure contains three factors, including socially aggressive behaviors (five items), direct relationally aggressive behaviors (five items), and interpersonal maturity (four items). Crothers and colleagues (2008) defined socially aggressive behaviors as those that “harm the target’s social standing” (p. 3), such as gossip, social exclusion, and isolation. They defined direct relationally aggressive behaviors as “the use of confrontational strategies to achieve interpersonal damage” (p. 3). Items on the direct relationally aggressive behavior scale pertain to behaviors such as ignoring someone or threatening to end a relationship. The interpersonal maturity scale

contains item content that were hypothesized to be negatively correlated with social and relational aggression.

In contrast to the aforementioned adapted peer-nomination measure and the PEQ, the YASB has more data to support its psychometric soundness, though the available data are still limited. Crothers and colleagues (2008) conducted a confirmatory factor analysis on a sample of 639 college students in order to test the factor structure of the fourteen items and found support for the three-factor structure of the instrument. They further provided some evidence of convergent and discriminant validity based on comparisons of the YASB with items from the Hyperfemininity Inventory (Murnen & Byrne, 1991), finding that relational and social aggression were positive associated with femininity. In contrast, they found that interpersonal maturity was negatively associated with femininity.

Augustin (2010) elaborated the psychometric properties of the YASB by confirming the three-factor structure in a sample of 457 undergraduate college students. She also found evidence of convergent validity based on correlations of the relational aggression subscale of the YASB with other measures of relational aggression, including the Self-Report Measure of Aggression and Victimization (Morales & Crick, 1998) and the adapted version of Werner and Crick's (1999) peer-nomination measure of relational aggression. Support for the discriminant validity of the relational aggression subscale of the YASB was found based on its correlation with a measure of aggression (Buss & Perry, 1992). Evidence of concurrent criterion validity was also found based on correlations of the YASB with correlates of relational aggression identified in previous literature (e.g., Schmeelk et al., 2008; Storch, Brassad, & Masia-Warner, 2003; Werner &

Crick, 1999), including psychopathic personality traits and alcohol and drug misuse. Finally, the internal consistency of the YASB was determined to be acceptable based on alpha coefficients of the relational aggression subscale, social aggression subscale, and interpersonal maturity subscale (.75, .80, and .74, respectively).

The YASB has several strengths, including that its development was based on qualitative data collected from a sample more representative in age of the population for which the measure is intended. It further has some empirical support for its internal consistency, convergent validity, concurrent criterion validity, and discriminant validity. However, the YASB is not without limitations. First, it does not account for the different manifestations of relational aggression in peer and romantic contexts. Although it has one item that references an intimate partnership, (i.e., “When I am frustrated with my partner/colleagues/friend, I give that person the silent treatment”), the YASB item content appears to be based on the assumption that romantic and peer relational aggression are a unitary construct, despite evidence to the contrary (e.g., Dahlen et al., 2013; Ellis et al., 2009). Secondly, the YASB does not distinguish between proactive and reactive functions of relational aggression.

In contrast to the aforementioned measures, the Peer Conflict Scale (PCS; Marsee & Frick, 2007) takes into account the functions of aggression. The PCS is a 40-item measure that was developed by pooling items and rewording items from various measures of aggression commonly used with children and early adolescents such as the Aggressive Behavior Rating Scale (K. Brown et al., 1996), the Aggressive Subtypes Scale (Dodge & Coie, 1987), the Direct and Indirect Aggression Scales (Björkqvist et al., 1992), and others (e.g., Crick & Grotpeter, 1995; Galen & Underwood, 1997). It

contains four 10-item scales that assess subtypes of aggression, including proactive overt, proactive relational, reactive overt, and reactive relational. Marsee and colleagues (2010) examined the factor structure, reliability, and validity of the PCS across three different samples. The three samples included ninth through twelfth grade high school students ($n = 166$), detained youths ($n = 158$; Mean age = 15.32 years), and at-risk youths enrolled in a voluntary residential military-style community-based intervention program ($n = 531$). The pooled sample included a total of 855 participants, ages twelve to nineteen.

A confirmatory factor analysis supported the four-factor structure of the PCS in all three samples. The reliability of the PCS was supported through coefficient alphas ranging from .79 to .82 across the subscales in the pooled sample, and from .76 to .88 across the subscales in the three separate samples. Additionally, the four factors correlated as hypothesized with other variables (i.e., arrest history, callous-unemotional traits, and delinquency), thus demonstrating concurrent criterion validity of the PCS.

Compared to the aforementioned measures of relational aggression, the PCS examines both form and function of aggression, which is consistent with recommendations by several other researchers (e.g., Mathias et al., 2007). It also has more established psychometric properties. However, like other existing measures of relational aggression, the items on the PCS are based on measures used among children and early adolescents. Further, it has not been validated for use among emerging adults or with a college sample.

The most commonly used measure of relational aggression among older adolescent and emerging adult samples is the Self-Report of Aggression and Social Behavior Measure (SRASBM; Morales & Crick, 1998; Morales et al., 2002). The

original version of the SRASBM contains 56 items and eleven scales that assess proactive relational aggression, reactive relational aggression, romantic relational aggression, peer/general relational victimization, romantic relational victimization, proactive physical aggression, reactive physical aggression, peer/general physical victimization, romantic victimization, prosocial behavior, and interpersonal jealousy. Three of the subscales, including peer-directed proactive relational aggression (5 items), peer-directed reactive relational aggression (6-items) and romantic relational aggression (5 items), can be collapsed to form one 16-item relational aggression scale. More commonly, however, researchers collapse the reactive and proactive relational aggression subscales into one peer/general relational aggression scale (e.g., Czar et al., 2011). Another 42-item version of the SRASBM was reported by Linder and colleagues (2002). It has nine scales, including peer/general relational aggression, romantic relational aggression, peer/general relational aggressive victimization, romantic relational aggression victimization, peer/general physical aggression, peer/general physical victimization, romantic physical victimization, interpersonal jealousy, and prosocial behavior. That is, it does not contain subscales for the proactive and reactive functions of relational and physical aggression.

Regarding the psychometric properties of the SRASBM, several studies have found adequate internal consistency for the scales of the SRASBM, with Chronbach's alphas ranging from .71 to .87 (Bailey & Ostrov, 2008; Goldstein et al., 2008; Lento-Zwolinski, 2007; Linder et al., 2002; Miller & Lyman, 2003; Murray-Close et al., 2010; Ostrov & Houston, 2008; Schad et al., 2008); however, some studies have found internal consistencies below .70 for the proactive and romantic relational aggression subscales

(Murray-Close et al., 2010; Ostrov & Houston, 2008), suggesting that the reliabilities of the some of the relational aggression subscales may not be as strong as other subscales on the SRASBM. Test-retest reliability for the proactive relational aggression subscale has been reported as $r = .84$ and as $r = .75$ for the reactive relational aggression subscale (Ostrov & Houston, 2008). Murray-Close et al. (2010) examined the psychometric properties of the relational aggression scales of the SRASBM in a sample of 1,387 men and women ages 25 to 45 (M age =33.80, $SD = 5.89$), including its factor structure and predictive validity, and found support for the three-factor model of the relational aggression scale (i.e., proactive, reactive, and romantic relational aggression) and differential correlations between reactive and proactive relational aggression and various indices of psychosocial functioning. Other support for the validity of the SRASBM is primarily based on convergent relationships of the relational aggression and victimization subscales to measures of psychological adjustment, relationship quality, and other theoretically related constructs (Bagner et al., 2007; Bailey & Ostrov, 2008; Czar et al., 2011; Linder et al., 2002). Respondents rate items on a seven-point Likert scale, ranging from 1 (“not at all true”) to 7 (“very true”).

Compared to the other measures used among older adolescents and emerging adults, the SRASBM has been subjected to the greatest level of empirical scrutiny and has the most established reliability and validity. However, it is not without its flaws. First, because it contains a vast array of scales (eleven total), researchers opt to use various scales in various combinations. For example, with regard to the relational aggression scales, specifically, some researchers opt to collapse reactive and proactive relational aggression into one general/peer relational aggression scale, while others opt to

parse out the reactive and proactive relational aggression subscales. Additionally, the different versions of the SRASBM contribute to inconsistencies regarding how people describe the measure as well as how the constructs represented on the measure are assessed. This is exacerbated by the fact that the SRASBM is sometimes referred to as the Self-Report Measure of Aggression and Victimization (e.g., Czar et al., 2011). Although the array of scales on the SRASBM and different versions seems to have the appeal of flexibility, practically speaking, it contributes to confusion and difficulties synthesizing and comparing results of studies that use the SRASBM. Further, it contributes to confusion regarding the psychometric properties of the different forms of the SRASBM.

The item content on the SRASBM also poses another limitation. Although the SRASBM captures reactive and proactive forms of aggression, proactive motivations seem to be restricted to getting others to comply with one's wishes, with one item referencing "just to be mean." Reactive items mostly seem to relate to anger. Other proactive and reactive motivations such as personal enjoyment, other mood states, or retaliation are not represented. Thus, the functions of relational aggression might not be adequately represented on the SRASBM. Additionally, as is common across most all existing measures of relational aggression, its items are based on measures developed for children and early adolescents. Thus, it is likely to lack relationally aggressive behaviors that are more salient among older adolescents and young adults. For example, the SRASBM, like the other measures previously discussed, does not include items specific to electronic forms of communication, despite evidence that internet-based communication and social behavior are increasingly relevant to the lives of North

Americans, particularly among young adults (Correa et al., 2010; Pempek et al., 2009; Steinfeld et al., 2008).

Because mobile and online forms of communication are commonly used for social purposes, they constitute an avenue through which aggression can take place. A growing body of literature shows that emerging adults utilize electronic forms of communication for the purposes of hurting others (Dilmac, 2009) and may be particularly vulnerable to experiencing harm through electronic means of communication (Angster, Frank & Lester, 2010; Smith, Rainie, & Zickuhr, 2011). Indeed, one study found that 92% of participants reported being victimized via an electronic form of communication by friends or dating partners within the past year (Bennett, Guran, Ramos, & Margolin, 2011). Although the term cyberbullying has been commonly used to describe aggressive online behavior, electronic aggression does not imply that the behavior is repeated over time like cyberbullying (Tokunaga, 2010). Accordingly, the term electronic aggression captures a broader array of behaviors than cyberbullying. Some researchers who study electronic aggression have drawn on the relational aggression literature base to inform their conceptualization of the construct (e.g., Bennett, Guran, Ramos, & Margolin, 2011), while others have even proposed that electronic aggression is an extension of relational aggression (e.g., Kellerman, Margolin, Borofsky, Baucom, & Iturralde, 2013).

It is easy to see the commonality of relational aggression and some expressions of electronic aggression. A study by Kellerman and colleagues (2013) examined the occurrence and motivations of electronic aggression toward friends and dating partners in a sample of 226 undergraduate students. Examples of behaviors they assessed for included sending hurtful emails or text messages, sharing embarrassing photos or stories, or

excluding others on social media sites. To the extent that these behaviors are intended to damage one's relationship, reputation, or sense of belonging, they could be considered relationally aggressive behaviors. The authors also asked participants to describe their motivation for engaging in electronic aggressive behaviors in an open-ended format. They organized the participants' reported motivations into themes, some of which map directly onto the forms of relational aggression. For example, "negative emotion" is described as behaviors enacted out of anger, frustration, hurt, or other negative emotions. This is consistent with definitions of reactive aggression (Dodge & Petit, 2003; Poulin & Bouvin, 2000). Reference to electronic forms of communication is sparse in the literature on relational aggression; however, given the prevalence of electronic aggression among older adolescents and emerging adults and its likeness to relational aggression, researchers are remiss to not consider electronic forms of communication in the assessment of relational aggression.

Taken together, a review of the current measures for relational aggression in older adolescents and emerging adults reveals a variety of psychometric limitations that impede the advancement of the literature on relational aggression.

Development of a New Measure

In an effort to respond to the recommendations in the literature regarding the measurement of relational aggression as well as mitigate the limitations that characterize extant measures of relational aggression, the process of developing a new measure of peer relational aggression was initiated by Dr. Dahlen's research lab. The goals included developing a measure that would be maximally relevant to college student samples, that would assess proactive and reactive functions of relational aggression, and that would

include item content dealing with electronic aggression. Although older adolescents' and young adults' romantic relationships constitutes an important context within which to consider relational aggression, it has been recommended that romantic and peer relational aggression be assessed independently of one another (Dahlen et al., 2013; Ellis et al., 2009). Thus, we chose to focus only on the measurement of peer relational aggression.

Another reason for developing a measure specific to peer relational aggression is that researchers might not necessarily want to measure both relational aggression in both peer and romantic contexts. Due to the currently limited number of available measures of relational aggression, many researchers are forced to use measures that assess peer and romantic relational aggression as a unified construct or use select subscales of a measure that includes both.

The first step in developing the YARAS included conducting a thorough literature review to develop a consensus definition of relational aggression. The following construct definition was developed to guide the subsequent steps of the instrument development process:

Relational aggression refers to behaviors in which one person harms another through deliberate manipulation or damage (or threat to damage) to relationships; feelings of acceptance, friendship, or group inclusion; or social status (Crick, 1995, 1996; Crick & Grotpeter, 1995; Crick et al., 1999; Ellis, Crooks, & Wolfe, 2009; Leff et al., 2010; Linder et al., 2002; Werner & Crick, 1999). Examples of relationally aggressive behaviors in peer relationships include spreading gossip to harm the victim's reputation, ignoring the victim (e.g., giving the "silent treatment"), threatening to end a relationship, public humiliation or

embarrassment, and social exclusion or rejection (Crapanzano, Frick, & Terranova, 2010; Goldstein et al., 2008; Goldstein & Tisak, 2010; Gros et al., 2010; Kuppens et al., 2009). Relationally aggressive behaviors in romantic relationships include things like ignoring the victim when angry, flirting with someone to make the victim jealous, or threatening to break up with the victim to get one's way (Linder et al., 2002).

In order to identify item content for the new measure, three focus groups were conducted with college student volunteers to gather qualitative information regarding relationally aggressive behaviors. Focus group members were recruited from the University of Southern Mississippi using the Department of Psychology's web-based research system (Sona Systems Ltd.) and were offered research credit that could be applied to an undergraduate course in exchange for their participation. Group members' ($N = 16$) ages ranged from 18 to 24 ($M = 20.87$, $SD = 1.93$). With respect to race and ethnicity, the focus group members primarily identified as Black or White. Regarding year in college, 37.5% identified as freshmen, 12.5% as juniors, and 50% as seniors.

During each focus group meeting, the researcher and a master's-level research assistant provided the aforementioned definition of relational aggression and explained the group's task as one of generating examples of relationally aggressive behaviors that occur among college students. Then, the members were asked to share examples of relationally aggressive behaviors that they have observed other college students do or that they have done themselves in peer and romantic relationships. In order to minimize any risks associated with real or perceived pressure to disclose socially undesirable or unpleasant experiences with relational aggression/victimization, participants were also

asked to describe incidents of relational aggression they have heard about or observed from unidentified third parties (e.g., peers, family members). The researchers checked with participants to determine how common others' perceived the examples of relationally aggressive behavior (i.e., "Is this something others have heard about?"). These examples were recorded as raw data for use in constructing an initial set of items. One of the clear themes that emerged from the focus group data was the use of electronic forms of communication in the perpetration of relational aggression.

After an initial set of items was developed based on information gathered from the focus groups, the researcher scanned other measures of relational aggression used among older adolescents and emerging adults (e.g., PCS; SRASBM) to identify any relationally aggressive behaviors that were not adequately represented in the items constructed based on the focus groups. A few items pertaining to unrepresented content were then constructed. Although the researcher focused on developing a measure of peer relational aggression, romantic relational aggression content was also collected to inform future efforts to develop a measure of romantic relational aggression. Thus, one item pool was developed for peer relational aggression and another was developed for romantic relational aggression. The peer relational aggression item pool contained thirty-three items, including sixteen proactive relational aggression items and seventeen reactive relational aggression items, and is the basis for this study.

In an effort to support the construct validity of the item pool, four experts on relational aggression were selected to review the initial item pool, including Dr. Chris Barry, Dr. Kate Czar, Dr. Jennifer Zwolinski, and Dr. Jamie Ostrov. The expert reviewers, each of whom had previously published peer-reviewed work on relational

aggression, were instructed to rate each item in terms of its relevance to the construct of relational aggression on a scale of zero to two, with zero indicating low relevance, one indicating moderate relevance, and two indicating high relevance. Additionally, expert reviewers were asked to provide comments or suggestions for improving the items. The researchers revised the item pool by eliminating items considered to have low relevance to the construct and editing items based on suggestions from the expert reviewers. The final peer relational aggression item pool contained a total of 42 items, including twenty-one proactive relational aggression items and twenty-one reactive relational aggression items (see Table 1, Appendix A). In order to reduce the number of items and better understand their structure, exploratory factor analytic procedures were utilized.

Following data screening, which included the use of quality assurance checks to identify and eliminate careless responders (see Huang, Curran, Keeney, Poposki, & DeShon, 2011; Liu, Bowling, Huang, & Kent, 2013; Meade & Craig, 2011), the initial item evaluation was completed using a development sample of 446 college student volunteers (75% female, 25% male) recruited from the University of Southern Mississippi using the Department of Psychology's web-based research system (Sona Systems Ltd.). Although participants' ages ranged from 18 to 62 (*Mdn* = 20), 87.2% of the sample was between 18 and 25. Representation across the four years of college was as follows: 30.9% identified as freshmen, 23.5% as sophomores, 24.4% as juniors, and 21.1% as seniors. Approximately 16% of the sample reported being a member of a sorority or fraternity, and 48% reported living on campus. Participants identified primarily as African American (37.2%) or Caucasian (56.7%), with 2.5% identifying as Hispanic, 0.9% as American Indian or Alaskan Native, 1.6% as Asian, and 1.1% as other.

After reading a brief description of the study and providing their consent to participate, students completed the item pool described above along with a brief demographic questionnaire, Form C of the Marlowe-Crowne Social Desirability Scale (Reynolds, 1982), the Aggression Questionnaire (Buss & Perry, 1992), and the Self-Report of Aggression and Social Behavior Measure (Morales & Crick, 1998; Linder et al., 2002). All measures were administered online via Qualtrics, and participants completed the study in less than 30 minutes.

Prior to conducting the analyses described below, the item response frequencies of the 42 items were examined. Seven items were identified in which over 90% of respondents selected “Not at all true of me.” Given that these items asked about socially undesirable behaviors assumed to have low base rates in the population (e.g., “I tell harmful lies about others just for fun” and “I try to steal friends from others who have wronged me”), this was not surprising. Although items in which the vast majority of respondents answer in the same way contribute little variability and are often dropped for this reason, such items can help to identify people who are unusually high on the characteristic(s) of interest. That is, something like telling lies about others purely for one’s own enjoyment might be extremely rare, but that does not necessarily mean that being able to identify people who report engaging in this behavior might not have utility in the context of relational aggression. These items were retained at this point in the process, but a note of their low variance was made so they could be re-examined later.

Exploratory factor analysis (EFA) was conducted with the 42 items in order to reduce the total number of items while maintaining adequate internal consistency and to learn about the underlying structure of the item pool. Given that item reduction was the

primary goal at this stage in the process, principal components analysis (PCA) was used. Because the manner in which items were written (i.e., many described the same behavior and differed only in terms of whether the aim was proactive or reactive) may have created spurious relationships between items, we conducted separate PCAs for the 21 reactive relational aggression items and 21 proactive relational aggression items.

Reactive Relational Aggression

Tests of sampling adequacy (Kaiser-Meyer-Olkin criterion) and multicollinearity (Bartlett's test of sphericity) were performed with the 21 reactive relational aggression items. A Kaiser-Meyer-Olkin (KMO) criterion of .93 indicated suitable common variance for component extraction, and Bartlett's test indicated that the intercorrelation matrix was appropriate for analysis, $\chi^2(210) = 5052.79, p < .0001$. PCA was computed with an oblique rotation (Direct Oblimin) based on the assumption that the resulting components would be correlated, as they assessed various aspects of the same construct (i.e., reactive relational aggression). Initial eigenvalues are reported in Table A1 (all tables referenced in this section can be found in Appendix A). Component extraction criteria were determined using parallel analysis (Horn, 1965) as described by Thompson (2004). On this basis, two components were extracted, explaining a cumulative variance of 54.02%. Items that did not load at least .50 on either component were deleted (items 24, 32, and 39). Items were examined for cross loadings, but none were identified with cross loadings $> .40$. Thus, 18 items were retained.

Component loadings for the 18 items are provided in Table A2. The two components accounted for 57.63% of the cumulative variance (Component 1 = 42.69% and Component 2 = 14.94%). Based on an examination of the items with the highest

loadings on each component, Component 1 was labeled “Reactive Damage Relationship/Reputation,” and Component 2 was labeled “Reactive Ignore/Exclude.” Items on the Reactive Damage Relationship/Reputation scale relate to relationally aggressive behaviors that damage the target’s reputation or relationships with others for reasons that are considered reactive in nature. Items on the Reactive Ignore/Exclude relate to ignoring, ostracizing, or excluding the target, also for reasons that are considered to be reactive in nature. Alpha coefficients and average item-total correlations for each component are presented in Table A3. The items for which more than 90% of respondents selected the same response option were examined in terms of their effect on internal consistency. None could be dropped without reducing the internal consistency of the components on which they loaded, and so all were retained. As expected, the two reactive components were correlated, $r = .45, p < .0001$.

Proactive Relational Aggression

Tests of sampling adequacy (Kaiser-Meyer-Olkin criterion) and multicollinearity (Barlett’s test of sphericity) were performed with the 21 proactive relational aggression items. A Kaiser-Meyer-Olkin (KMO) criterion of .93 indicated suitable common variance for component extraction, and Bartlett’s test indicated that the intercorrelation matrix was appropriate for analysis, $\chi^2(210) = 5626.08, p < .0001$. PCA was computed with an oblique rotation (Direct Oblimin) based on the assumption that the resulting components would be correlated, as they assessed various aspects of the same construct (i.e., proactive relational aggression). Initial eigenvalues are reported in Table A4. Component extraction criteria were determined using parallel analysis, and two components were extracted, explaining a cumulative variance of 55.99%. Items that did

not load at least .50 on either component were deleted (item 41). Items were examined for cross loadings, but none were identified with cross loadings > .40.

Component loadings for the remaining 20 items are provided in Table A5. The two components accounted for 57.40% of the cumulative variance (Component 1 = 46.10%) and Component 2 = 11.30%). Based on an examination of the items with the highest loadings on each component, Component 1 was labeled “Proactive Damage Relationship/Reputation,” and Component 2 was labeled “Proactive Ignore/Exclude.” These components have content that is highly similar to those on the components associated with reactive relational aggression (i.e., items on Component 1 relate to relationally aggressive behaviors that damage the target’s reputation or relationships with others and items on Component 2 relate to ignoring, ostracizing, or excluding the target), but for reasons that are considered to be proactive in nature. Alpha coefficients and average item-total correlations for each component are presented in Table A6. Again, the items for which more than 90% of respondents selected the same response option were examined in terms of their effect on internal consistency. None could be dropped without reducing the internal consistency of the components on which they loaded, so all were retained. As expected, the two proactive components were correlated, $r = .57, p < .0001$.

In summary, the proactive and reactive relational aggression item sets each appear to form two components, one of which assesses efforts to damage victims’ relationships and reputation and the other of which assesses ignoring/excluding victims. Thus, the YARAS appears to consist of two scales (i.e., Proactive and Reactive), each of which has two subscales (i.e., Proactive Damage Relationship/Reputation and Proactive Ignore/Exclude, and Reactive Damage Relationship/Reputation and Reactive

Ignore/Exclude). The Proactive Damage Reputation/Relationship and Reactive Damage Reputation/Relationship subscales contain 13 and 12 items, respectively. The Proactive Ignore/Exclude and Reactive Ignore/Exclude subscales contain 7 and 6 items, respectively.

The YARAS is intended to account for several criticisms of current measures of relational aggression for young adults and college students. First, because the item content was based largely on information obtained during focus groups with college students, it includes relationally aggressive behaviors relevant to older adolescents and young adults that were not previously represented in other measures (e.g., posting negative comments about someone online). This is in contrast to existing measures that were mostly adapted from those designed for use with children and early adolescents. Thus, the YARAS is responsive to recommendations regarding the need for measures that are developmentally appropriate for older populations (e.g., Goldstein et al., 2008a). Second, the YARAS was designed to assess proactive and reactive forms of relational aggression. This is consistent with several recommendations from researchers that stress the importance of examining the functional subtypes of aggressive behavior (e.g., Little et al., 2003; Mathieson & Crick, 2010; Marsee & Frick, 2007). Third, the instrument development process included the use of expert reviewers to help provide further support for the construct validity of the measure, which is important given the ongoing debate in the literature regarding how to define relational aggression. Thus, the YARAS has great potential to exceed the quality of other existing measures of relational aggression for older adolescents and young adults. However, additional research is necessary to validate the measure.

The Present Study

The present study aimed to continue the development of the YARAS. The first step of this process involved conducting a confirmatory factor analysis (CFA) in an effort to confirm the previously identified four-factor structure of the YARAS in a new sample (see Appendix B). The fit indices of this model were compared to those of three other models to determine the model of best fit. This study additionally tested the internal consistency, convergent, and discriminant validity of the YARAS through comparisons with other measures of theoretically relevant constructs.

A number of correlates of other measures of relational aggression identified in previous literature guided the procedures used to investigate the validity of the YARAS. Among older adolescents and emerging adults, loneliness, internalizing symptoms such as depression and anxiety, as well as alcohol use and alcohol-related problems have been identified as correlates of relational aggression (Dahlen et al., 2013; Storch et al., 2003; Storch, et al., 2004; Werner & Crick, 1999). Additionally, several studies have investigated the relevance of psychopathy and related traits to relational aggression and found significant associations (Burton et al., 2007; Czar et al., 2011; Marsee et al., 2005; Miller & Lyman, 2003; Schmeelk et al., 2008). Although psychopathic traits have been identified as relevant to relational aggression, they appear more relevant to proactive relational aggression than reactive relational aggression. Specifically, proactive relational aggression was related to callous-unemotional traits in a sample of detained youth ages 12 to 18 (Marsee & Frick, 20007), and psychopathic personality features were related to proactive relational aggression but not reactive relational aggression among college students (Ostrov & Houston, 2008). This differential association of psychopathic traits

with the proactive function of relational aggression makes theoretical sense. That is, psychopathy is conceptualized as impaired interpersonal (e.g., superficiality, manipulativeness, grandiosity and deceptiveness) and affective abilities (e.g., shallow emotions; impaired emotional bonding) coupled with pattern of engagement in deviant behaviors (Drislane, Patrick & Arsal, 2013; Hare & Neumann, 2009). Given that persons with these traits are likely to lack guilt and remorse and exhibit callous and antisocial behaviors (Hare & Neumann, 2009), engagement in proactive aggression, which is often planned, goal-directed, and motivated by a desire for instrumental gain or a desire for dominance or sadism (Frick & Marsee, 2006; Marsee et al., 2011; Vitaro & Brendgen, 2005), seems consistent with psychopathic traits.

Reactive relational aggression, on the other hand, is associated with correlates such as anger toward perceived threats or hostile attributions, hostility, emotion regulation problems, and poor impulse control (Marsee & Frick, 2007; Murray-Close et al., 2010; Ostrov & Houston, 2008). These correlates are theoretically consistent with reactive aggression, which is characterized as impulsive, unplanned aggression motivated by negative emotional states (e.g., anger) that often occurs in response to real or perceived threats or provocations (Dodge, 1991; Dodge & Petit, 2003; Poulin & Bouvin, 2000; Vitaro & Brendgen, 2005; Vitaro, Brendgen, & Barker, 2006).

Based on the relationship of relational aggression with the aforementioned correlates as well as initial instrument development procedures, the following research questions were addressed:

Research Questions and Hypotheses

1. Can the factor structure of the YARAS be confirmed in a new sample?

H1: The desired four-factor model or an alternative two-factor model of the YARAS will be confirmed in a new sample.

2. Does the YARAS demonstrate evidence of convergent validity with other measures of relational aggression?

H2a: The subscales on the YARAS will be at least moderately related to the peer/general relational aggression subscale of the SRASBM.

H2b: The reactive scales on the YARAS will be at least moderately related with the reactive relational aggression subscale on the SRASBM.

H2c: The proactive scales on the YARAS will be at least moderately related to the proactive relational aggression subscale on the SRASBM.

3. Is the YARAS more highly correlated with measures of relational aggression than with measures of overt aggression, thus providing evidence for discriminant validity?

H3a: The subscales on the YARAS will be more highly correlated with the peer/general relational aggression subscales than with the peer/general physical aggression subscale on the SRASBM.

H3b: The subscales on the YARAS will be more highly correlated with the SRASBM relational aggression subscales than with the physical aggression subscale on the Aggression Questionnaire (AQ).

4. Is the YARAS positively correlated with measures of alcohol-related problems, psychopathic personality traits, internalizing problems, and loneliness, thus providing evidence of concurrent validity?

H4a: The subscales on the YARAS will be positively correlated with the total scores on Levenson Self-Report Psychopathy Scale.

H4b: The subscales on the YARAS will be positively correlated with the total score on the UCLA Loneliness Scale.

H4c: The subscales on the YARAS will be positively correlated with the total score on the Rutgers Alcohol Problem Index (RAPI).

H4d: The subscales on the YARAS will be positively correlated with the subscale scores on the Depression, Anxiety, and Stress Scale - 21.

H4e: The subscales on the YARAS will be positively correlated with scores on the Buss-Perry Aggression Questionnaire.

5. Are there differential associations between correlates for the proactive scales and reactive scales consistent with those identified in previous literature, thus providing evidence of concurrent validity for the proactive and reactive scales?

H5a: The YARAS proactive subscales will be more highly correlated with the total score on the Levenson Self-Report Psychopathy Scale compared to the YARAS reactive subscales.

H5b: The YARAS reactive scales will be more highly correlated with the Anger scale on the AQ compared to the YARAS proactive scales.

6. Does the YARAS have acceptable internal consistency for use as a research measure?

H6a: The subscales of the YARAS will show adequate internal consistency (i.e., alpha coefficients $> .70$).

CHAPTER II – METHODS

The final sample on which analyses were performed included 402 participants from the University of Southern Mississippi. Of this sample, 132 (32.8%) were male, and 270 (67.2%) were female. Ages ranged from 18 – 25 (*Mdn* age = 20). Participants reported their racial/ethnic background as follows: 134 (33.3%) African American/Black, 243 (60.4%) White, 10 (2.5%) Hispanic, 1 (.2%) American Indian/Alaska Native, 12 (3.0%) Asian, and two participants selected “Other” as their ethnic background and identified themselves as Bahamian and Palestinian/Arabian, respectively. The sample included 183 (45.5%) freshmen, 76 (18.9%) sophomore, 72 (17.9%) junior, and 68 (16.9%) senior students (three participants did not report their college status).

Instruments

Demographic Questionnaire. A demographic questionnaire assessed participants’ gender, age, race, sexual orientation, year in school, living arrangements, and membership in a Greek Life Organization (see Appendix D, for all other measures see Appendix C).

Young Adult Relational Aggression Scale (YARAS). The 38-item YARAS was designed by Dahlen, Clark, & McCann (2014) to assess peer relational aggression and its associated functions (i.e., proactive and reactive) among emerging adults. As described previously, the items of the YARAS were constructed based on information obtained from focus groups with college students and content on other measures of relational aggression previously used with older adolescents and emerging adults (i.e., PCS, SRASBM). Items were submitted to a panel of four expert reviewers and the item pool was revised according to their ratings of relevance to the construct of relational

aggression and suggested changes to wording. Principal components analysis was used to reduce the item pool from 42 to 38 items and identify subscales. The YARAS has two higher-order scales (Reactive and Proactive) that were each found to have two components (Damage Relationship/Reputation and Ignore/Exclude). Items are rated according to a 7-point Likert scale ranging from 1 (*not at all true of me*) to 7 (*very true of me*). For the reactive scale, the Damage Relationship/Reputation component was found to have an alpha coefficient of .91, while the Ignore/Exclude component was found to have an alpha coefficient of .89. Alpha coefficients for the Damage Relationship/Reputation and Ignore/Exclude components on the proactive scale were found to have alpha coefficients of .93 and .86, respectively.

Self-Report of Aggression and Social Behavior Measure (SRASBM). Relational and physical aggression were measured with various subscales of the SRASBM (Morales & Crick, 1998; Morales, Ruh, & Werner., 2002; Linder et al., 2002), a 56-item self-report measure designed to assess various social behaviors in older adolescents and college students, including proactive and reactive relational aggression, romantic relational aggression, romantic relational victimization, proactive and reactive physical aggression, peer/general physical victimization, romantic physical victimization, prosocial behavior, and interpersonal jealousy. All scales were administered with the exception of the romantic aggression scales. The peer/general relational aggression and peer/general physical aggression scales can be further divided into proactive and reactive subscales for relational aggression and physical aggression. Respondents rate items on a 7-point Likert scale ranging from 1 (“not at all true”) to 7 (“very true”). Cronbach alphas for the various subscales of the SRASBM have been reported as ranging from .71 to .87 (Bailey &

Ostrov, 2008; Goldstein et al., 2008; Lento-Zwolinski, 2007; Linder et al., 2002; Miller & Lyman, 2003; Murray-Close et al., 2010; Ostrov & Houston, 2008; Schad et al., 2008), although some studies have found internal consistencies below .70 for the proactive and romantic relational aggression subscales (Murray-Close et al., 2010; Ostrov & Houston, 2008). Support for the validity of the SRASMB is primarily based on convergent relationships of the relational aggression and victimization subscales to measures of psychological adjustment, relationship quality, and other theoretically related constructs (Bagner et al., 2007; Bailey & Ostrov, 2008; Czar et al., 2011; Linder et al., 2002).

Rutgers Alcohol Problem Index (RAPI). Alcohol-related problems were measured with the RAPI (White & Labouvie, 1989), a 23-item measure designed to assess problem drinking in adolescent and young adult populations. Respondents rate items about the frequency of alcohol-related problems on a scale of 0 (“None”) to 3 (“More than five times”). Item responses are summed to yield a total score. Internal consistency for the RAPI has been reported as .8 or higher in both clinical and non-clinical samples (White, Filstead, Labouvie, Conlin, & Pandina, 1988). Convergent validity has been supported via correlations with other measures of alcohol use and alcohol-related problems (White & Labouvie, 1989).

Levenson Self-Report Psychopathy Scale (LSRP). Psychopathic personality traits were measured with the LSRP (Levenson et al., 1995), a 26-item measure designed to assess psychopathic personality traits in non-clinical samples. The LSRP yields a total score as well as a primary subscale score based on 16 items that assess affective/interpersonal aspects of psychopathy and a secondary subscale score based on 10 items that assess social deviance components of psychopathy. Respondents rate items

on a 4-point Likert scale from 1 (“disagree strongly”) to 4 (“agree strongly”). Internal consistency for the total scale, primary scale, and secondary scale have been reported as .82, .83, and .71, respectively (Falkenbach, Poythress, & Creevy, 2008). Convergent validity has been supported through relationships between the LSRP and various measures of anxiety, aggression, personality traits, and coping responses to shame (Campbell & Ellison, 2005; Falkenbach et al., 2008; Miller, Gaughan, & Prior, 2008). This scale was used to assess the concurrent validity of the YARAS proactive subscales.

UCLA Loneliness Scale. Loneliness was measured with the UCLA Loneliness Scale-Version 3 (UCLA-3; Russell, 1996), a 20-item measure designed to measure loneliness as a unidimensional construct. Respondents rate the frequency with which they identify with each construct from 1 (“never”) to 4 (“always”). The UCLA-3 yields one total score. Reliability of the UCLA-3 has been supported through alpha coefficients reported as ranging from .89 to .94 and 1-year test-retest coefficient of .73 in an adult sample (Russell, 1996). Support for the validity of the UCLA-3 includes positive associations with other measures of loneliness as well as depression, and inverse relationships with social support and self-esteem (Deniz, 2010; Russell, 1996). This scale was included in order to assess the concurrent validity of the YARAS.

Depression, Anxiety, and Stress Scale-21. Internalizing symptoms were measured with the DASS-21, an abbreviated version of the 42-item DASS developed by Lovibond and Lovibond (1995). It contains three 7-item scales that measure depression, anxiety, and stress over the past week, respectively. Items are rated on a scale of 0 (did not apply to me at all) to 3 (applied to me very much, or most of the time). Alpha coefficients higher than .85 have been reported for the DASS-21, and its validity has been supported

through correlations with other measures of depression and anxiety (Antony, Bieling, Cox, Ens, & Swinson, 1998; Lovibond & Lovibond, 1995). This scale was used to assess the concurrent validity of the YARAS.

Buss-Perry Aggression Questionnaire (AQ). Aggression and related constructs of hostility and anger were measured with the AQ, a 29-item measure of general aggressive tendencies, otherwise referred to a “trait aggression” (Archer & Webb, 2006, p. 464). This measure has been frequently utilized with college student populations (Archer & Webb, 2006; Bernstein & Gesn, 1997; Bryant & Smith, 2001; Felsten & Hill, 1999; Harris, 1995; Harris & Knight-Bohnhoff, 1996). It includes four subscales that assess “subtraits” of aggression (Diamond, Wang, & Buffington-Vollum, 2005, p. 553), including physical aggression, verbal aggression, anger, and hostility. Items are responded to on a five-point Likert scale ranging from 1 (“extremely uncharacteristic of me”) to 5 (“extremely characteristic of me”). Adequate internal consistency has been demonstrated for these subscales, with Cronbach alphas ranging from .72 to .85. The AQ also has been found to have good test-retest reliability, ranging from .72 to .80 (Buss & Perry, 1992). Evidence for the discriminant and convergent validity of the subscales includes negative correlations between education level and the anger, verbal aggression, and physical aggression scales (Harris & Knight-Bohnhoff, 1996) as well as positive associations between the hostility scale and anger in response to maltreatment (Felsten & Hill, 1999). Other measures of aggression have also been found to be correlated with the AQ (Buss & Perry, 1992; Harris & Knight-Bohnhoff, 1996). This measure was used to assess the concurrent validity of the YARAS.

Procedure

Participants included undergraduate students from the University of Southern Mississippi who are recruited from the Department of Psychology's web-based research system (Sona Systems Ltd.). In order to recruit more male participants than are readily available through Sona, participants were also recruited from various undergraduate courses across the university through emails distributed to students. Participants who were recruited through Sona received research credit consistent with departmental policy upon completion of the survey. Participants recruited from outside of Sona had their name entered into a raffle to win one of two \$25.00 Visa gift cards upon completion of the study.

Interested participants recruited through Sona were presented a brief description of the study listed on the Sona research system used by the Department of Psychology. Persons interested in participating in the study followed a link to an online survey host (Qualtrics) where they were be presented with an online consent form (see Appendix E). Those who were recruited through undergraduate courses were given a link to a different online survey where they were also presented with an online consent form (see Appendix F). Individuals who provided electronic consent were directed to the study questionnaires. The final page of the questionnaire for participants recruited through undergraduate classess asked them for their contact information so that their name could be entered into the raffle for one of three gift cards. All questionnaires were administered online and were designed to be anonymous. Participants were first presented with the YARAS. All additional measures were randomized in order to control for order effects.

In order to guard against careless responding, two quality control procedures were implemented. The first procedure was recommended by Meade and Craig (2012) and included embedding two directed items in the survey. They were formatted in such a way that they appeared consistent with items on the measures and instructed participants to provide a specific response to the item (e.g., “Answer *not at all true of me* to this item”). Participants who failed one of these items were immediately routed out of the study without receiving incentives and their data was not retained in the data set. In order to make participants aware of this possibility, the instructions for the survey and the consent form included a statement regarding the importance of attending to the survey in order to receive research credit or other incentives.

Another quality control procedure included closely examining data from participants whose completion time fell at or below the 5th percentile of the average completion time of all participants. This procedure is consistent with recommendations from Huang and colleagues (2011). In order to determine completion times, the survey was set up such that the amount of time each respondent completed each page was recorded. An average completion time was computed for the survey based on completion times of all participants. Data from participants’ whose completion time was at or below the 5th percentile was examined to determine whether it should be retained.

CHAPTER III – RESULTS

Data Screening

Data were collected from an initial sample of 491 participants, and data screening procedures were conducted prior to completing the primary analyses. Fourteen cases were removed for failing one or both of the two directed response items that had been blended into the questionnaires to detect careless responders. Another 39 cases were discarded due to the respondents being outside the age requirements of the study (i.e., below 17 or over 25). Twenty-one additional cases were removed based on overall survey completion time that fell at or below the 5th percentile (9.2 minutes). Finally, another 16 cases were removed due to excessive missing data on key study variables. Although some univariate outliers were identified during data screening (i.e., > 3 standard deviations from sample item mean), these cases were retained because the scores could be feasibly obtained and there was no reason to suspect that they reflected errors. Linear trend at point was used to impute scores for items with missing data.

Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) was utilized to investigate four different models of the YARAS. The predicted model included the four-factor structure of the YARAS previously identified via exploratory factor analysis (see Appendix B). Additional models tested through CFA included a one-factor model (i.e., all items loading on a single factor) and two two-factor models (i.e., Reactive and Proactive scales; Damage Relationships/Reputation and Ignore/Exclude scales) to select a preferred model of fit. Mplus software (Muthén & Muthén, 1998-2015) was used to conduct these analyses. Consistent with recommendations by Brown (2006), the Root Mean Square of

Approximation (RMSEA), the Tucker-Lewis Index (TLI), the Comparative Fit Index (CFI), and the Chi-square statistic were examined to determine the best model of fit. According to Brown (2006), a non-significant Chi-square, an RMSEA less than or equal to 0.06, and both TLI and CFI close to 0.95 (or greater) reflect acceptable models of fit. Table 1 contains the fit statistics for each of the four models tested, as well as the re-specified four-factor model described below. Per the other fit statistics, the four-factor model performed the best; however, the fit statistics fell below conservative guidelines recommended by Brown (2006).

Table 1

Confirmatory Factor Analysis Fit Statistics (N = 402)

	χ^2	<i>df</i>	$\Delta\chi^2$	RMSEA	RMSEA C.I. (90%)	TLI	CFI
4-Factor	1456.45	659		.06	.05 - .06	.82	.83
2-Factor (DAM/IGN)	1770.86	664	313.55*	.07	.06 - .07	.75	.76
2 Factor: (REA/PRO)	2346.58	664	890.13*	.08	.08 - .08	.61	.63
1-Factor	2454.54	665	998.09*	.08	.08 - .09	.59	.61
Re-Specified 4- Factor	1061.478	646	-394.98**	.04	.04 - .05	.91	.90

Note. All chi-square values are statistically significant ($p < .01$).

*Model fit is significantly worse ($p < .05$)

**Model fit is significantly better ($p < .05$)

Confirmatory Factor Analysis Fit Statistics (N = 402)

The modification indices generated by Mplus for the tested four-factor model were examined to determine how the model could be improved. These indices reflect data-driven suggestions for changes that are likely to improve the fit of the model (Harrington, 2009). The modification indices suggested that the model could be improved by correlating the error terms of various items. The suggested items were examined, and it was ultimately decided to correlate the error terms of 13 item pairs (see Table 2). Ten of the 13 item pairs were on the same scale and were very similar in terms of item content (e.g., “When I am angry with someone, I exclude him/her from social activities” and “I sometimes exclude others when I’m mad at them”). Error terms for three additional item pairs on separate factors were allowed to correlate based on the substantial overlap in their wording and the expectedly high correlation between them. For example, the error terms of the following items from the Reactive Damage Relationships/Reputation and the Proactive Damage Relationships/Reputation, respectively, were correlated: “When I’m angry, I post things online to make someone feel rejected” and “I post things online to make someone feel rejected, even if they haven’t done anything to me.” Fit statistics for the re-specified four-factor model are presented in the bottom row of Table 1. These fit statistics are consistent with an acceptable model of fit, per guidelines posed by Brown (2006). Moreover, the fit Still, it is important to note that this re-specified model is exploratory and cannot be considered confirmed until it has been evaluated in a new sample. Because of this, the hypothesis that the predicted four-factor model or an alternative two-factor model of the YARAS would be confirmed in a new sample (H1)

was not fully supported. Nevertheless, this re-specified four-factor model of the YARAS was used in subsequent analyses.

Table 3 shows the means, standard deviations, ranges, and alpha coefficients for all key variables. As predicted (H6), each scale on the YARAS showed adequate internal consistency for use as a research measure, as indicated by Chronbach alpha coefficients (i.e., Reactive Damage Relationships/Reputation = .86, Reactive Ignore/Exclude = .90, Proactive Damage Relationships/Reputation = .88, and Proactive Ignore/Exclude = .84).

Table 2

Item Pairs with Correlated Error Terms

Item No.	Item 1 of Pair	Item No.	Item 2 of Pair
14.	I try to harm the friendships of others, even if they haven't done anything to me. (ProDAM)	18.	I try to steal friends from others just to hurt them. (ProDAM)
32.	I sometimes exclude other when I am mad at them. (ReaIGN)	30.	When I am angry with someone, I exclude him/her from social activities. (ReaIGN)
13.	I spread malicious gossip about others to be more popular. (ProDAM)	12.	I share hurtful rumors about others to get what I want. (ProDAM)
38.	I make negative comments about others online to make them look bad. (ProDAM).	20.	I make others look bad in front of their friends for fun. (ProDAM)
2.	I share hurtful rumors about others when I am upset. (ReaDAM)	3.	I spread malicious gossip about others when they hurt my feelings. (ReaDAM)
25.	I give others the silent treatment to get them to do what I want. (ProIGN)	26.	I ignore others to help me get what I want. (ProIGN)
10.	I make others look bad in front of their friends when I am upset. (ReaDAM)	7.	If someone makes me mad, I try to make him/her look stupid in front of others. (ReaDAM)
22.	I ignore others when I am upset with them. (ReaIGN)	21.	I give others the silent treatment when I'm mad at them. (ReaIGN)

- 29. When I want someone to do what I want, I act “cold” toward him/her. (ProIGN)
- 7. If someone makes me mad, I try to make him/her look stupid in front of others. (ReaDAM)
- 15. I flirt with someone else’s partner to hurt his/her relationship. (ProDAM)
- 16. I threaten to share an embarrassing secret about someone to get him/her to do what I want. (ProDAM)
- 35. I post things online to make someone feel rejected, even if they haven’t done anything to me. (ProDAM)

- 25. I give others the silent treatment to get them to do what I want. (ProIGN)
- 1. I try to damage the reputation of others who make me mad. (ReaDAM)
- 5. I flirt with someone else’s partner if he/she makes me angry. (ReaDAM)
- 6. I threaten to share an embarrassing secret about someone when I’m mad at him/her. (ReaDAM)
- 31. When I’m angry, I post things on line to make someone feel rejected. (ReaDAM)

Table 3

Range of Scores, Means, Standard Deviations, and Alpha Coefficients (N= 402)

	Minimum	Maximum	<i>M</i>	<i>SD</i>	α
<i>YARAS Scales</i>					
Reactive Damage	12.00	48.00	15.55	5.98	.86
Relationships/Reputation					
Reactive Ignore/Exclude	6.00	42.00	16.93	9.13	.90
Proactive Damage	13.00	52.00	14.67	4.26	.88
Relationships/Reputation					
Proactive Ignore/Exclude	7.00	43.00	11.38	6.12	.84
<i>SRASBM Scales</i>					
Peer/General RA	7.00	33.00	10.65	4.97	.78
Proactive RA	5.00	25.00	7.18	3.45	.73
Reactive RA	6.00	35.00	10.83	4.94	.72
Physical Aggression	5.00	26.00	7.21	3.74	.78
LSRP	30.00	99.00	59.33	11.85	.83
UCLA	0.00	60.00	19.68	15.50	.96
RAPI	0.00	44.00	4.57	6.82	.92
<i>DASS-21 Scales</i>					
Depression	0.00	42.00	7.90	8.72	.88

Anxiety	0.00	38.00	6.83	7.81	.83
Stress	0.00	42.00	11.36	9.31	.85
<hr/> <i>Buss-Perry AQ</i> <hr/>					
Total	31.00	196.00	92.51	34.79	.93
Anger	7.00	49.00	20.77	9.98	.84
Physical Aggression	9.00	63.00	26.48	12.08	.83
<hr/>					
Note. LSRP = Levenson Self-Report Psychopathy Scale; UCLA = UCLA Loneliness Scale; RAPI = Rutgers Alcohol Problems Inventory; DASS-21 = Depression, Anxiety, and Stress Scale- 21; AQ = Buss-Perry Aggression Questionnaire					

Bivariate Correlations

Bivariate correlations between the four YARAS scales and measures of theoretically related constructs were computed for the purpose of evaluating convergent and discriminant validity of the YARAS. As predicted (H2a - H2c), all scales of the YARAS were positively correlated with subscales of the SRASBM; the reactive scales on the YARAS were positively correlated with the reactive relational aggression subscale on the SRASBM, and the proactive scales on the YARAS were positively correlated with the proactive relational aggression scales on the SRASBM (see Table 4). With one exception (i.e., correlation of the Reactive Ignore/Exclude YARAS scale with the Peer/General RA scale on the SRASBM), each of the aforementioned correlations were moderately strong (i.e., above 0.50), providing evidence of the convergent validity of the YARAS. At the same time, the strength of the relationships between the YARAS scales and the SRASBM scales was not great enough as to suggest redundancy.

Table 4

Intercorrelations Among the YARAS Scales and SRASBM Scales (N = 402)

Scale	1	2	3	4	5	6	7	8
<i>Raw YARAS scales</i>								
1. Reactive Damage Relationships/Reputation	-							
2. Reactive Ignore/Exclude	.43*	-						
3. Proactive Damage Relationships/Reputation	.79*	.24*	-					
4. Proactive Ignore/Exclude	.47*	.61*	.45*	-				
<i>Residualized YARAS scales</i>								
5. Reactive Damage Relationships/Reputation	.61**	.40**	.00	.15**	-			
6. Reactive Ignore/Exclude	.18**	.79**	-.07	.00	.39**	-		
7. Proactive Damage Relationships/Reputation	.00	-.17**	.61**	.17**	-.79**	-.35**	-	
8. Proactive Ignore/Exclude	.26**	.00	.41**	.79**	-.12**	-.61**	.34**	-
<i>Raw SRASBM scales</i>								
9. Peer/General RA	.68*	.44*	.61*	.57*	.33**	.11*	.11*	.39**
10. Reactive RA	.63*	.57*	.49*	.57*	.39**	.29**	-.01	.26**
11. Proactive RA	.53*	.24*	.60*	.54*	.09	-.12*	.30**	.50**

12. Physical Aggression	.49*	.24*	.48*	.32*	.18**	.05	.16**	.22**
<i>Residualized SRASBM Reactive and Proactive scales</i>								
13. Reactive RA	.12**	-.13**	.39**	.26**	.42**	.46**	-.24**	-.06
14. Proactive RA	.38**	.54**	.16**	.29**	-.19**	-.37**	.38**	.44**

Note. YARAS = Young Adult Relational Aggression Scale; SRASBM = Self Report of Aggression and Social Behavior Measure.
* p < .01.

To further assess the concurrent validity of the proactive and reactive scales on the YARAS, the residualized scores of the scales on the YARAS and the scales on the SRASBM were computed to produce relatively pure measures of these constructs as described by Raine and colleagues (2006). Specifically, Proactive Damage Relationships/Reputation was regressed on Reactive Damage Relationships/Reputation, Proactive Ignore/Exclude was regressed on Reactive Ignore/Exclude, Reactive Damage Relationships/Reputation was regressed on Proactive Damage Relationships/Reputation, and Reactive Ignore/Exclude was regressed on Proactive Ignore/Exclude. For the SRASBM, the Proactive Relational Aggression scale was regressed on the Reactive Relational Aggression Scale, and the Reactive Relational Aggression scale was regressed on the Proactive Relational Aggression Scale. The residualized reactive scales on the YARAS were positively related to the residualized reactive scale on the SRASBM. The residualized Proactive Damage Relationships/Reputation scale on the YARAS was inversely related to the residualized reactive scale on the SRASBM, while the relationship between the residualized Reactive Ignore/Exclude scale and reactive scale on the SRASBM was not significant. The residualized proactive scales on the YARAS were positively associated with the residualized proactive scale on the SRASBM, while the

residualized reactive scales on the YARAS were inversely related. These results provide further support for the convergent validity of the reactive and proactive functions of the YARAS scales.

It was also noted that the correlations between the YARAS scales with corresponding types of relationally aggressive behaviors (Damage Relationships/Reputation or Ignore/Exclude) were higher than the correlations between the YARAS scales with corresponding forms of aggression (Proactive or Reactive). Specifically, the relationship between YARAS Reactive Damage Relationships/Reputation scale and Proactive Damage Relationships/Reputation was stronger than the relationship between Reactive Damage Relationships/Reputation and Reactive Ignore/Exclude scale ($z = 7.56, p < .001$). Similarly, the relationship between Reactive Ignore/Exclude and Proactive Ignore/Exclude was stronger than the relationship between Reactive Ignore/Exclude and Reactive Damage Relationships/Reputation scale ($z = 3.34, p < .001$).

Next, tests of the difference between independent correlations were performed (see Lee & Preacher, 2013) with the goal of determining if the correlations between the YARAS scales and the SRASBM Peer/General Relational Aggression scale were higher than those between the YARAS scales and the SRASBM Physical Aggression scale and the Buss-Perry Aggression Questionnaire's Physical Aggression scale, respectively (H3a-H3b). The YARAS Reactive Damage Relationships/Reputation scale was more closely related to the SRASBM's Peer/General Relational Aggression scale compared to the SRASBM's Physical Aggression scale ($z = 5.36, p < .001$). The same was found for the Reactive Ignore/Exclude scale ($z = 4.59, p < .001$), the Proactive Damage

Relationships/Reputation scale ($z = 3.46, p < .001$), and the Proactive Ignore/Exclude scale ($z = 6.18, p < .001$) of the YARAS. The YARAS Reactive Damage Relationships/Reputation scale, Proactive Damage Relationships/Reputation scale, Reactive Ignore/Exclude, and the Proactive Ignore/Exclude scales were each more highly correlated with the SRASBM's Peer/General Relational Aggression scale compared to the Physical Aggression scale of the Buss-Perry Aggression Questionnaire at the $p < .001$ significant level (z s = 8.48, 6.64, -3.48, and 6.42, respectively). These results provide some support for the discriminant validity of the YARAS with measures of overt physical aggression.

Table 5

Intercorrelations Among the YARAS and Related Variables (N = 402)

Scale	1	2	3	4
<i>YARAS scales</i>				
1. Reactive Damage	-			
Relationships/Reputation				
2. Reactive Ignore/Exclude	.43**	-		
3. Proactive Damage	.79**	.24**	-	
Relationships/Reputation				
4. Proactive Ignore/Exclude	.47**	.61**	.47**	-
<i>Theoretically Related Constructs</i>				
5. LSRP	.32**	.26**	.28**	.32**
6. UCLA	.23**	.28**	.20**	.16**

7. RAPI	.18**	.23**	.13**	.21**
8. DASS-21 Depression	.17**	.25**	.06	.09
9. DASS-21 Anxiety	.19**	.23**	.09	.12*
10. DASS-21 Stress	.26**	.38**	.11*	.22**
11. AQ Total	.38**	.38**	.33**	.31**
12. AQ Physical Aggression	.28**	.25**	.28**	.24**
13. AQ Anger	.32**	.30**	.27**	.27**

Note. LSRP = Levenson Self-Report Psychopathy Scale; UCLA = UCLA Loneliness Scale; RAPI = Rutgers Alcohol Problems Inventory; DASS-21 = Depression, Anxiety, and Stress Scale-21; AQ = Buss-Perry Aggression Questionnaire
 **p < .01; *p < .05

The YARAS scales were correlated in expected directions with measures of theoretically related constructs (see Table 5). Specifically, the YARAS scales were positively correlated with the total score on the Levenson-Self-Report Psychopathy Scale (H4a), the UCLA Loneliness Scale (H4b), the College Alcohol Problems Scale- Revised (H4c), and the total score on the Buss-Perry Aggression Questionnaire (H4e), as hypothesized. Support for the prediction that scores on the YARAS would be positively related to depression, anxiety, and stress as measured with the DASS-21 (H4d) was more mixed. Although Reactive Damage Relationships/Reputation and Reactive Ignore/Exclude were both positively associated with depression, anxiety, and stress, as predicted, Proactive Damage Relationships/Reputation was correlated with stress but not depression or anxiety, and Proactive Ignore/Exclude was correlated with anxiety and stress but not depression. Taken together, these results provide evidence for the construct validity of the YARAS.

To test hypotheses related to the discriminant validity of the YARAS (H5a and H5b), the respective correlations of the raw and residualized scores of the two proactive scales (i.e., Proactive Damage Relationships/Reputation and Proactive Ignore/Exclude) and the raw and residualized scores of the two reactive scales (i.e., Reactive Damage Relationships/Reputation and Reactive Ignore/Exclude) of the YARAS with the scores on the LSRP and the Anger scale of the AQ were compared. The correlations of both the raw and standardized residual scores with the total score on the LSRP and the Anger scale of the AQ were computed and compared (see Table 6). Using raw scores, all scales of the YARAS were positively correlated with the LSRP scales (Total, Primary, and Secondary). As hypothesized (H5a), Proactive Ignore/Exclude had a stronger relationship

with the LSRP Primary scale compared to the Reactive Ignore/Exclude scale ($z = 2.37, p < .05$). Additionally, the Reactive Damage Relationships/Reputation scale was more closely associated with the LSRP Primary scale compared to the Reactive Ignore/Exclude scale ($z = .237, p < .05$). Using residualized versions of the YARAS scales, Reactive Damage Relationships/Reputation and the Proactive Ignore/Exclude scales were both associated with the total score of the LSRP and the LSRP Primary scale. Contrary to the hypothesis (H5a), however, the strength of these relationships did not differ ($z = .96, p = .34; z = .74, p = .46$). Further contrary to the hypothesis (H5a), only the residualized reactive scales were associated with the LRSP Secondary scale, which measures the social deviance traits of psychopathy.

Using raw scores, all YARAS scales were positively associated with the Anger scale of the AQ, though there were no significant differences in the strength of these correlations. Only the residualized reactive scales were positively associated with the Anger scale of the AQ, thus providing support for the hypothesis (H5b).

Table 6

Intercorrelations Among Raw and Residualized Scores of YARAS, LSRP, and AQ Scales (N = 402)

Scale	1	2	3	4	5	6	7	8
<i>Raw YARAS Scales</i>								
1. Reactive Damage Relationships/Reputation	-							
2. Reactive Ignore/Exclude	.43**	-						
3. Proactive Damage Relationships/Reputation	.79**	.24**	-					
4. Proactive Ignore/Exclude	.47**	.61**	.47**	-				
<i>Residualized YARAS Scales</i>								
5. Reactive Damage Relationships/Reputation	.61**	.40**	.00	.15**	-			
6. Reactive Ignore/Exclude	.18**	.79**	-.07	.00	.39**	-		
7. Proactive Damage Relationships/Reputation	.00	-.17**	.61**	.17**	-.79**	-.35**	-	
8. Proactive Ignore/Exclude	.26**	.00	.41	.79**	-.12*	-.61**	.34**	-
<i>LSRP</i>								
9. Total	.32**	.26**	.28**	.32**	.16**	.09	.04	.20**
10. Primary Traits	.33**	.21**	.29**	.31**	.16**	.03	.04	.23**
11. Secondary Traits	.29**	.29**	.24**	.25**	.16**	.17**	.02	.09

<i>AQ</i>									
12.	Anger	.32**	.30**	.27**	.27**	.20**	.24**	.04	.10

CHAPTER IV – DISCUSSION

A growing body of research on relational aggression reveals that it is associated with several adverse outcomes in child, adolescent, and emerging adult samples, including peer rejection, jealousy, loneliness, depression, destructive coping, antisocial behavior, and physical aggression, borderline personality traits, bulimic symptoms, alcohol misuse, and a variety of interpersonal problems (Bagner et al., 2007; Crick, 1996; Crick & Grotpeter, 1995, 1996; Crick & Nelson, 2002; Czar et al., 2011; Linder et al., 2002; Miller & Lynam, 2003; Ostrov & Houston, 2008; Prather et al., 2012; Prinstein et al., 2001; Sebanc, 2003; Storch et al., 2003; Sullivan et al., 2006; Werner & Crick). Continued research on relational aggression is therefore warranted for the purposes of better understanding the construct and ultimately developing treatment and prevention strategies. Such efforts have been challenged, however, by the lack of psychometrically sound measures of relational aggression, especially for use with emerging adult populations (Murray-Close et al., 2010). For example, many measures do not distinguish between the proactive and reactive subtypes of relational aggression and have little evidence of validity for use with adults given their adaptation from measures designed for children and early adolescents (Dodge & Crick, 1991; Crick et al., 2007; Merrell et al., 2006; Murray-Close et al., 2010). This study sought to validate the Young Adult Relational Aggression Scale (YARAS), a new self-report measure that was designed to assess the proactive and reactive functions of relational aggression among emerging adults.

Factor Structure

Prior to this study, an initial pool of 42 YARAS items was subjected to exploratory factor analysis (EFA) to reduce the number of items and gain some insight into the underlying factor structure. Items were divided into two sets based on whether they were intended to assess reactive or proactive functions of relational aggression. The rationale for separating the items at this stage was that many of them described the same behavior and only differed in whether the aim was proactive or reactive. Thus, running two separate EFAs (i.e., one for the proactive items and one for the reactive items) was deemed necessary to avoid spurious relationships.

In the EFAs, the proactive and reactive relational aggression item sets each appeared to form two components, one of which assesses efforts to damage victims' relationships and reputation and the other of which assesses ignoring/excluding victims. Thus, the YARAS appeared to consist of two scales (i.e., Proactive and Reactive), each of which had two subscales (i.e., Proactive Damage Relationship/Reputation and Proactive Ignore/Exclude, and Reactive Damage Relationship/Reputation and Reactive Ignore/Exclude). The Proactive Damage Reputation/Relationship and Reactive Damage Reputation/Relationship subscales contain 13 and 12 items, respectively. The Proactive Ignore/Exclude and Reactive Ignore/Exclude subscales contain 7 and 6 items, respectively. On the basis of these preliminary analyses, it was hypothesized that one of two two-factor structures (Proactive and Reactive factors or Damage Relationship/Reputation and Ignore/Exclude) or a four-factor structure (Proactive Damage Relationship/Reputation and Proactive Ignore/Exclude, and Reactive Damage

Relationship/Reputation and Reactive Ignore/Exclude) would be confirmed in a new sample.

The first step of validating the YARAS in the present study included conducting a confirmatory factor analysis (CFA) in an effort to confirm the previously identified four-factor structure of the YARAS in a new sample. The hypothesized four-factor structure of the YARAS performed better than the two two-factor models and one one-factor model that were tested; however, the fit statistics fell below conservative guidelines recommended by Brown (2006). After the model was re-specified on the basis of modification indices, the fit statistics improved to an acceptable level. Although the model re-specifications were theoretically justifiable, such changes to the proposed model mean that the confirmation of the four-factor structure of the YARAS is tentative.

An examination of the correlations among the four YARAS scales revealed that the relationship between scales with corresponding expressions of relationally aggressive behavior (Damage Relationships/Reputation and Ignore/Exclude) were stronger than the relationships between scales with corresponding functions of aggression (Proactive and Reactive). This suggests that the differentiation between reactive and proactive functions of relational aggression is less robust than the differentiation between expressions of relationally aggressive behaviors and further suggests that the YARAS may face the psychometric challenge of clearly differentiating reactive and proactive forms of aggression. This challenge would not be unique to the YARAS. Although several studies support the differentiation of reactive and proactive functions of aggression, some researchers argue that the correlations between the functions are perhaps too high to be of any psychometric or clinical utility (e.g., Bushman & Anderson, 2001; Poulin &

Boivin, 2000a). With these criticisms in mind, Poleman and colleagues (2007) conducted a meta-analysis of studies that examined the differential associations of proactive and reactive functions of aggression. They cited correlations between reactive and proactive functions as ranging from $-.10$ to $.87$ across these studies. They concluded that research in this area is complicated by variations in measurement methods. Specifically, they posited that reactive and proactive aggression are indeed distinct constructs, and that such variations across the literature are likely attributable to the type of measurement used and the entanglement of the form and function of aggression. As applied to the YARAS, their findings raise the possibility that the simultaneous assessment of form and function of relational aggression is one reason for this pattern of correlations. Indeed, Poleman and colleagues (2007) indicated that correlations between the functions of aggression were lower among studies that disentangled the function and form of aggression compared to those that did not.

Nonetheless, it is promising that the four-factor structure of the YARAS performed better than the two-factor models tested. This suggests that there is both theoretical and psychometric support for different forms and functions of relational aggression represented on the YARAS. The YARAS is therefore consistent with recommendations in the literature to parse the functions of relational aggression (e.g., Murray-Close et al., 2010). Alpha coefficients ranging from $.84$ to $.90$ across the four scales of the YARAS indicated that the internal consistency of the YARAS is adequate to support its use as a research instrument.

Convergent and Discriminant Validity

The validity of the re-specified four-factor YARAS was evaluated by examining relationships between its scales and another measure of relational aggression (i.e., SRASBM), measures of theoretically related constructs, and measures of theoretically distinct constructs. Overall, these comparisons provided considerable evidence for the convergent and discriminant validity of the YARAS as a measure of relational aggression. The YARAS scales were positively related to the relational aggression subscales of the SRASBM, which is probably the most widely used self-report measure of relational aggression that is appropriate for emerging adults and one of the few available measures which has been subjected to any sort of psychometric evaluation. Thus, evidence of meaningful relationships between the YARAS scales and the SRASBM scales provides solid evidence of concurrent validity. The strength of these relationships were moderate, suggesting that the measures are likely assessing the same construct (i.e., relational aggression) but are not redundant. Given that part of the goal in generating items for the YARAS was to provide expanded content coverage of the relational aggression construct, the lack of redundancy is encouraging. One reason for the lack of redundancy may be that the YARAS assesses a broader scope of relationally aggressive behaviors compared to the SRASBM. Further support for the concurrent validity of the YARAS comes from the relationships of the respective residualized scores of the YARAS and SRASBM reactive and proactive scales. These findings specifically support the concurrent validity of the proactive and reactive functions of the YARAS scales.

In addition to evidence of convergent validity in the form of comparisons with an established measure of relational aggression, it was important to determine how scores on the YARAS would relate to measures of other constructs previously linked to relational aggression. That is, if a variable has repeatedly been shown to be positively correlated with relational aggression and if the YARAS is in fact measuring relational aggression, then scores on the YARAS should be positively correlated with that variable. Scores on the YARAS were correlated in expected directions with measures of psychopathy, loneliness, alcohol misuse, and overt physical aggression. These findings are consistent with those of other studies investigating the relationship of relational aggression with these same constructs among older adolescents and emerging adults (e.g., Czar et al., 2011; Dahlen et al., 2013; Marsee et al., 2005; Miller & Lyman, 2003; Storch et al., 2003; Storch et al., 2004; Weiner et al., 2003; Werner & Crick, 2009). This provides additional evidence supporting the convergent validity of the YARAS.

One of the more common approaches to evaluating the discriminant validity of a measure of relational aggression involves determining whether it is more closely related to other measures of relational aggression than it is to measures of overt aggression. While overt and relational aggression are correlated, the strength of the relationship between two measures of relational aggression should be greater than the strength of the relationship between one measure of relational aggression and one measure of overt aggression. The YARAS was found to be more closely related to relational aggression, as assessed by the SRASBM, than to overt physical aggression, as assessed by both the SRASBM and the AQ.

Some support for the proactive/reactive distinction was also obtained by comparing these scales with a measure of depression, anxiety, and stress (i.e., the DASS-21). Specifically, the two reactive scales were positively related to depression, anxiety, and stress. On the other hand, neither of the proactive scales was related to depression, and only Proactive Ignore/Exclude was related to anxiety. The closer connection between the YARAS reactive scales and these constructs is consistent with the increased role negative emotion appears to play in reactive aggression (Bailey & Ostrov, 2008; Crick, 1995; Crick et al., 2002; Dodge et al., 1997; Nelson et al., 2008), lending some support to the ability of the YARAS to distinguish between reactive and proactive relational aggression. Moreover, these findings lend further support for the claim that reactive and proactive forms of aggression should be measured separately (Crick & Dodge, 1996; Vitaro et al., 2002).

Discriminant validity was further evaluated by examining the differences in the strength of the correlations between raw and residualized versions of the YARAS scales with measures of psychopathy and anger. Although no differences emerged among the correlations with the total score on a measure of psychopathy (i.e., LSRP), the Proactive Ignore/Exclude scale was more associated with the subscale measuring primary (i.e., factor 1) psychopathic traits, which include the interpersonal and affective psychopathic traits (e.g., manipulateness, superficial charm, impaired empathy), compared to the Reactive Ignore/Exclude scale but not to the Reactive Damage Relationships/Reputation scale. All of the residualized scales were associated with total psychopathy and with primary psychopathic traits, which suggests that the reactive and proactive functions of the YARAS scales did not discriminate as expected with regard to psychopathy in this

sample. Notably, however, only the residualized reactive scales were associated with secondary traits of psychopathy, which are characterized by social deviance and include traits such as impulsivity, irresponsibility, and antisocial behaviors. Although seemingly unexpected, this finding makes some sense given that reactive aggression is more associated with impulsivity on the basis of emotions. All raw YARAS scales were associated with anger, while only the residualized reactive scales were associated with anger. Taken together, these results suggest some differential associations of the reactive and proactive functions of the YARAS and align with previous research findings that show the reactive function of aggression is more associated with anger and the proactive function of aggression is more associated with psychopathic traits (e.g., Marsee & Frick, 2007; Ostrov & Houston, 2008).

Taken together, these results bolster the discriminant validity of the YARAS. It should be noted, however, that evidence of differential correlations between the proactive and reactive scores were only apparent via examination of the residualized scores. The raw YARAS scales appear to do little to discriminate between the reactive and proactive functions of relational aggression, and examination of the residualized scores seems necessary to examine possible differential relationships and validate the reactive and proactive functions of the scales. Although there is precedent for this approach (e.g., Raine et al., 2006), it is not without its limitations. For example, Lyman and colleagues (2006) asserted that the partialling of independent variables can be problematic because it is difficult to know what the independent variable represents after shared variance has been removed. As applied to the YARAS, removing the variance shared with the Proactive Ignore/Exclude scale from the total variance of the Reactive Ignore/Exclude

scale does not necessarily equate to distilling the essential content of the Reactive Ignore/Exclude scale. It is therefore difficult to interpret precisely what the correlations of these residualized scores with measures of theoretically related constructs mean, especially in comparison to one another. The issue of multicollinearity is just one such challenge to the study and measurement of the different functions of aggression. Nonetheless, these findings support the discriminant validity of the YARAS via unique associations of the reactive scales with depression, anger, and factor 2 psychopathy traits, and the relationship of the YARAS scales with measures of physical aggression.

Limitations and Future Directions

There are several limitations associated with this study. First, women were overrepresented in the sample. Although a 50-50 gender balance was not needed given that there are more women than men enrolled at the university from which the sample was drawn, a better balance is desirable since the YARAS is intended for use with both women and men. Future studies should seek to include more men, and efforts to determine whether the factor structure, if successfully confirmed in a new sample, functions similarly for women and men (i.e., invariance testing) are likely to be beneficial. Second, the sample was restricted to college students from one university, predominantly from the psychology department. Conducting the confirmatory factor analysis with a sample from the same university as was used for the exploratory factor analysis allows for greater confidence in the replication of the model because any discrepancies are less likely to be attributable to differences in sample characteristics; however, future studies will need to test the factor structure of the YARAS across more diverse samples. Administration of the YARAS in multiple diverse samples will also be

important in generating information about the base rates of proactive and reactive relational aggression, as this currently remains unclear in the literature. A third limitation concerns the reliance on face valid self-report measures in this study. It is possible that some participants were uncomfortable admitting to their engagement in unfavorable social behaviors (e.g., relational aggression). Future validation studies should consider the inclusion of other-report measures where possible. Other-report measures may be more feasibly used in samples with insulated social networks such as clubs, Greek Life organizations, athletic teams, or dormitory halls. Such samples would allow for data collection from more diverse sample types and enable the use of more sophisticated validation procedures involving the comparison of self-report measures to peer nomination measures. Finally, the primary limitation of the present study involves the necessity of model re-specification to obtain acceptable fit indices for the YARAS. Although the re-specified model was theoretically justifiable, such re-specification is an inherently exploratory procedure (MacCallum, 2003). That means that the results of the present study cannot be interpreted as having confirmed the factor structure of the YARAS. Confirmation of the re-specified model in a new sample would be required to achieve this.

An important challenge facing future efforts to confirm the re-specified YARAS model and continue to validate it centers on the question of whether the proactive vs. reactive distinction is truly meaningful, the adequacy with which it is captured by the YARAS, and how best to validate it. Although a strength of the YARAS is that it assesses both proactive and reactive functions of many of the same behaviors, this creates a psychometric challenge because many of the items on separate scales are highly

correlated by virtue of having highly similar item content. Indeed, the re-specified model included correlations of error terms of two item pairs that were on different scales of the YARAS with similar items, which raises the question of whether the scales are truly distinct. Although examining residualized scores is one way to attempt to distill the proactive and reactive functions of the scale for the purposes of validation, there are inherent limitations to this approach, as previously discussed. Lyman and colleagues (2006) asserted that strong internal consistency of measures may protect against erroneous conclusions on the basis of residualized scores. While the YARAS scales have high internal consistency, the inevitably high item inter-correlations still complicates this method of examining the validity of the proactive and reactive functions, and potentially unique associations are not apparent without the extra step in examining the residualized scales.

With these limitations in mind, the next steps in the development of the YARAS could go in a couple different directions. The first of these would be administering the YARAS to a new sample of college students to test the re-specified factor structure reported here. A more conservative and perhaps more prudent approach would be to return to an exploratory phase of instrument development that might involve writing new items, editing existing items, and/or deleting items before attempting to confirm the re-specified model. The rationale for this approach includes the unclear distinction between the reactive and proactive functions of relational aggression as measured by the YARAS. This is inherently complicated by the structure of the item content (e.g., similar wording on multiple items). Toward this end, specific efforts to reduce item content overlap across factors should be made. One way to do this might be to parse the relationally aggressive

behavior content from the function of the behavior, as is suggested by Poleman and colleagues (2007). This would reduce redundancy in the relationally aggressive behaviors represented on the YARAS while still allowing for the assessment of the functions of the behavior.

Returning to the item development stage of the YARAS in order to produce distinctions between relationally aggressive behaviors and the function of those behaviors may have practical advantages as well. For one, this measurement strategy may reduce inter-item correlations and thus improve the distinctness of the scale content. True differences between the reactive and proactive functions of aggression would theoretically not be suppressed by the behavioral content of the items. This would reduce the ambiguity in interpreting the relationships of the functions of aggression with correlates and make validation of the reactive and proactive scales easier. Research on relational aggression may be made easier through being able to examine the relationship of relational aggression and its functions distinctly. This type of measure may also have more clinical utility, particularly for use as a pre-treatment assessment measure and a post-treatment outcome measure. For example, information regarding the function of relationally aggressive behaviors could guide the selection of interventions that are tailored to the motivations of the relationally aggressive behaviors, while information regarding engagement in relationally aggressive behavior could be used to measure changes over time. Furthermore, because there is a paucity of research that relates to interventions for relational aggression, especially among emerging adults, the YARAS may provide a useful way of evaluating the effectiveness of intervention strategies. Efforts to establish the YARAS as a clinically meaningful measure can only follow future

concerted efforts to establish it first as a research instrument, which will include editing of the item content, an exploratory factor analysis, and a confirmatory factor analysis with additional validation procedures. Collection of data from more clinical samples to facilitate the development of norms and cut scores would also be necessary.

Conclusion

The YARAS is a brief self-report measure of reactive and proactive relational aggression intended for use among emerging adults. Item content was derived from focus groups of college students, as well as existing measures of relational aggression. Thus, the YARAS was developed to encompass a broad range of relationally aggressive behaviors that are developmentally salient among emerging adults. Although the hypothesized four-factor structure could not be confirmed in the present sample, a re-specified four-factor model had adequate fit, impressive internal consistency, and demonstrated evidence of convergent and discriminant validity. The extent to which the YARAS scales adequately discriminates between the reactive and proactive functions of relational aggression still remains, however. As such, future efforts to develop the YARAS should focus on further differentiation of the function and form of relational aggression so that the YARAS does not suffer the same limitations as existing measures of relational aggression.

APPENDIX A – TABLES

Table A1.

The Original Item Pool of the YARAS

1. I try to damage the reputation of others who make me mad.
2. I share hurtful rumors about others when I am upset.
3. I spread malicious gossip about others when they hurt my feelings.
4. If someone wrongs me, I try to harm his/her friendships.
5. I flirt with someone else's partner if he/she makes me angry.
6. I threaten to share an embarrassing secret about someone when I'm mad at him/her.
7. If someone makes me mad, I try to make him/her look stupid in front of others.
8. I try to steal friends from others who have wronged me.
9. I tell harmful lies about others when I am mad.
10. I make others look bad in front of their friends when I am upset.
11. I try to damage the reputation of others to make myself look better.
12. I share hurtful rumors about others to get what I want.
13. I spread malicious gossip about others to be more popular.
14. I try to harm the friendships of others, even if they haven't done anything to me.
15. I flirt with someone else's partner to hurt his/her relationship.
16. I threaten to share an embarrassing secret about someone to get him/her to do what I want.

17. I try to make someone else look stupid in front of others to improve my status in a group.
18. I try to steal friends from others just to hurt them.
19. I tell harmful lies about others just for fun.
20. I make others look bad in front of their friends for fun.
21. I give others the silent treatment when I'm mad at them.
22. I ignore others when I am upset with them.
23. If I am angry with someone, I act like he/she doesn't exist.
24. I threaten to stop being friends with someone when I'm mad at him/her.
25. When someone disappoints me, I act "cold" toward him/her.
26. I give others the silent treatment to get them to do what I want.
27. I ignore others to help me get what I want.
28. If I want to hurt someone, I act like he/she doesn't exist.
29. I threaten to stop being friends with someone so he/she will give in.
30. When I want someone to do what I want, I act "cold" toward him/her.
31. When I am angry with someone, I exclude him/her from social activities.
32. I tell my friends to not associate with someone who has upset me.
33. When I'm angry, I post things online to make someone feel rejected.
34. I sometimes exclude others when I'm mad at them.
35. When I want someone to do what I want, I exclude him/her from social activities.
36. I tell my friends not to associate with someone I don't like.

37. I post things online to make someone feel rejected, even if they haven't done anything to me.
 38. I sometimes exclude others just to show them that I can.
 39. I "de-friend" or "unfollow" someone on social media when I am angry with him/her.
 40. I make negative comments about others online when they upset me.
 41. I "de-friend" or "unfollow" someone on social media when I want to hurt their social status.
 42. I make negative comments about others online to make them look bad.
-

Table A2.

Initial Eigenvalues and Explained Variance from a Principle Components Analysis of the 21 Reactive Items

Component	Eigenvalue	% of Variance	Cumulative %
1	8.56	40.76	40.76
2	2.79	13.26	54.02
3	1.01	4.83	58.85
4	.87	4.16	63.01
5	.83	3.95	66.96

6	.73	3.48	70.44
7	.68	3.22	73.65

Table A3.

Component Loadings for the Reactive Relational Aggression From the Rotated Pattern Matrix: Principal Components Analysis With Direct Oblimin Rotation

Item	Component	
	1	2
9. I tell harmful lies about others when I'm mad.	.83	-.06
4. If someone wrongs me, I try to harm his/her friendships.	.81	-.03
2. I share hurtful rumors about others when I am upset.	.80	-.05
3. I spread malicious gossip about others when they hurt my feelings.	.77	-.03
1. I try to damage the reputation of others who make me mad.	.77	-.02
8. I try to steal friends from others who have wronged me.	.73	-.05
10. I make others look bad in front of their friends when I am upset.	.73	.08
6. I threaten to share an embarrassing secret about someone when I'm mad at him/her.	.69	.03
5. I flirt with someone else's partner if he/she makes me angry.	.69	.07
33. When I'm angry, I post things online to make someone feel rejected.	.64	.04
40. I make negative comments about others online when they upset me.	.59	-.02

7.	If someone makes me mad, I try to make him/her look stupid in front of others.	.55	.24
21.	I give others the silent treatment when I'm mad at them.	-.15	.90
23.	If I am angry with someone, I act like he/she doesn't exist.	-.06	.86
22.	I ignore others when I am upset with them.	-.01	.84
25.	When someone disappoints me, I act "cold" toward him/her.	.08	.77
34.	I sometimes exclude others when I'm mad at them.	.10	.73
31.	When I am angry with someone, I exclude him/her from social activities.	.16	.71

Table A4.

Internal Consistencies and Item-Total Correlations for the Two Reactive Relational Aggression Components Extracted

Component	Label	No. of Items	Internal Consistency (α)	Mean Item-Total Correlation (r_{it})
1	Reactive Damage Relationship/Reputation	12	.91	.72
2	Reactive Ignore/Exclude	6	.89	.80

Table A5.

*Initial Eigenvalues and Explained Variance from a Principal Components Analysis of the
21 Proactive Relational Aggression Items*

Component	Eigenvalue	% of Variance	Cumulative %
1	9.49	45.18	45.18
2	2.27	10.80	55.99
3	.89	4.22	60.21
4	.83	3.93	64.12
5	.80	3.82	67.96
6	.75	3.56	71.52
7	.69	3.29	74.82

Table A6.

*Components Loadings for the Proactive Relational Aggression From the Rotated Pattern**Matrix: Principle Components Analysis With Direct Oblimin Rotation*

Item	Component	
	1	2
19. I tell harmful lies about others just for fun.	.85	-.04
14. I try to harm the friendships of others, even if they haven't done anything to me.	.84	-.00
12. I share hurtful rumors about others to get what I want.	.83	-.06
18. I try to steal friends from others just to hurt them.	.83	-.03
20. I make others look bad in front of their friends for fun.	.82	-.01
11. I try to damage the reputation of others to make myself look better.	.78	.04
37. I post things online to make someone feel rejected, even if they haven't done anything to me.	.76	-.06
13. I spread malicious gossip about others to be more popular.	.71	-.07
16. I threaten to share an embarrassing secret about someone to get him/her to do what I want.	.69	.08
42. I make negative comments about others online to make them look bad.	.67	-.01
17. I try to make someone else look stupid in front of others to improve my status in a group.	.64	.11

15. I flirt with someone else's partner to hurt his/her relationship.	.63	.24
29. I threaten to stop being friends with someone so he/she will give in.	.57	.27
28. If I want to hurt someone, I act like he/she doesn't exist.	-.20	.86
26. I give others the silent treatment to get them to do what I want.	-.05	.85
30. When I want someone to do what I want, I act "cold" toward him/her.	-.02	.80
27. I ignore others to help me get what I want.	.17	.67
38. I sometimes exclude others just to show them that I can.	.10	.65
36. I tell my friends not to associate with someone I don't like.	.18	.56
35. When I want someone to do what I want, I exclude him/her from social activities.	.23	.53

Table A7.

Internal Consistencies and Item-Total Correlations for the Two Proactive Relational Aggression Components Extracted

Component	Label	No. of Items	Internal Consistency (α)	Mean Item- Total Correlation (r_{it})
1	Proactive Damage Relationship/Reputation	13	.93	.76
2	Proactive Ignore/Exclude	7	.86	.74

APPENDIX B – FIGURE

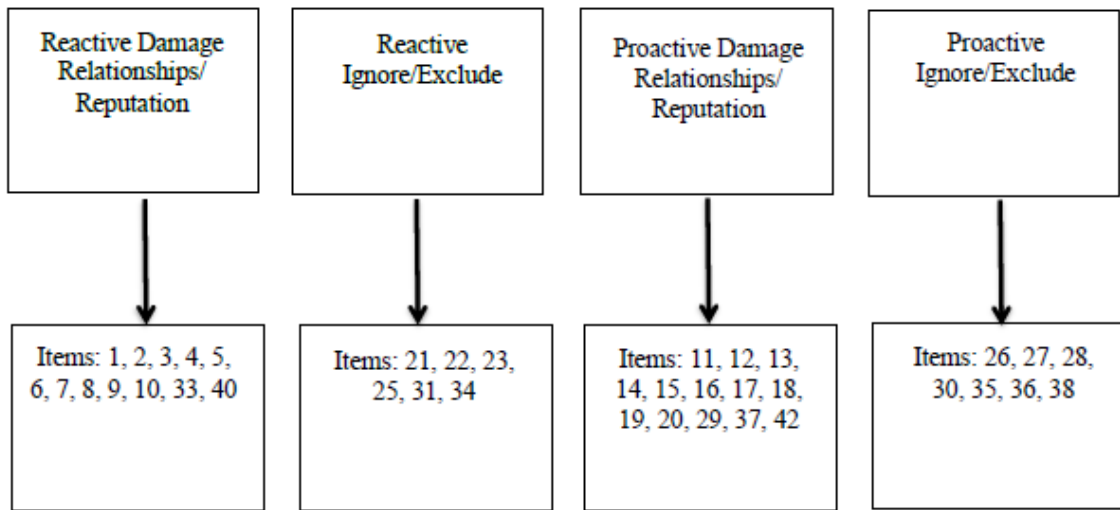


Figure 1. Predicted Factor Structure of the YARAS.

APPENDIX C – MEASURES

Self-Report Psychopathy Scale (SRPS)

Directions: Listed below are a number of statements. Each represents a commonly held opinion and there are no right or wrong answers. You will probably disagree with some items and agree with others. Please read each statement carefully and circle the number which best describes the extent to which you agree or disagree with each statement, or the extent to which each statement applies to you.

- | | 1 = Disagree strongly | 3 = Agree somewhat | | |
|-----|-----------------------------------------------------------------------------------------|--------------------|---|-------|
| | 2 = Disagree somewhat | 4 = Agree strongly | | |
| 1. | I am often bored. | | 1 | 2 3 4 |
| 2. | In today's world, I feel justified in doing anything I can get away with to succeed. | | 1 | 2 3 4 |
| 3. | Before I do anything, I carefully consider the possible consequences. | | 1 | 2 3 4 |
| 4. | My main purpose in life is getting as many goodies as I can. | | 1 | 2 3 4 |
| 5. | I quickly lose interest in tasks I start. | | 1 | 2 3 4 |
| 6. | I have been in a lot of shouting matches with other people. | | 1 | 2 3 4 |
| 7. | Even if I were trying very hard to sell something, I wouldn't lie about it. | | 1 | 2 3 4 |
| 8. | I find myself in the same kinds of trouble, time after time. | | 1 | 2 3 4 |
| 9. | I enjoy manipulating other people's feelings. | | 1 | 2 3 4 |
| 10. | I find that I am able to pursue one goal for a long time. | | 1 | 2 3 4 |
| 11. | Looking out for myself is my top priority. | | 1 | 2 3 4 |
| 12. | I tell other people what they want to hear so that they will do what I want them to do. | | 1 | 2 3 4 |
| 13. | Cheating is not justifiable because it is unfair to others. | | 1 | 2 3 4 |
| 14. | Love is overrated. | | 1 | 2 3 4 |
| 15. | I would be upset if my success came at someone else's expense. | | 1 | 2 3 4 |

- | | | | | | |
|-----|-------------------------------------------------------------------------------------|---|---|---|---|
| 16. | When I get frustrated, I often "let off steam" by blowing my top. | 1 | 2 | 3 | 4 |
| 17. | For me, what's right is whatever I can get away with. | 1 | 2 | 3 | 4 |
| 18. | Most of my problems are due to the fact that other people just don't understand me. | 1 | 2 | 3 | 4 |
| 19. | Success is based on survival of the fittest; I am not concerned about the losers. | 1 | 2 | 3 | 4 |
| 20. | I don't plan anything very far in advance. | 1 | 2 | 3 | 4 |
| 21. | I feel bad if my words or actions cause someone else to feel emotional pain. | 1 | 2 | 3 | 4 |
| 22. | Making a lot of money is my most important goal. | 1 | 2 | 3 | 4 |
| 23. | I let others worry about higher values; my main concern is with the bottom line. | 1 | 2 | 3 | 4 |
| 24. | I often admire a really clever scam. | 1 | 2 | 3 | 4 |
| 25. | People who are stupid enough to get ripped off usually deserve it. | 1 | 2 | 3 | 4 |
| 26. | I make of point of trying not to hurt others in pursuit of my goals. | 1 | 2 | 3 | 4 |

UCLA Loneliness Scale

Directions: Indicate how often each of the statements below is descriptive of you.

O indicates "I often feel this way"

S indicates "I sometimes feel this way"

R indicates "I rarely feel this way"

N indicates "I never feel this way"

- | | | | | | |
|----|-----------------------------------------------------------|---|---|---|---|
| 1. | I am unhappy doing so many things alone. | O | S | R | N |
| 2. | I have nobody to talk to. | O | S | R | N |
| 3. | I cannot tolerate being so alone. | O | S | R | N |
| 4. | I lack companionship. | O | S | R | N |
| 5. | I feel as if nobody really understands me. | O | S | R | N |
| 6. | I find myself waiting for people to call or write. | O | S | R | N |
| 7. | There is no one I can turn to. | O | S | R | N |
| 8. | I am no longer close to anyone. | O | S | R | N |
| 9. | My interests and ideas are not shared by those around me. | O | S | R | N |

- | | | | | |
|--------------------------------------------------------------------|---|---|---|---|
| 10. My social relationships are superficial. | O | S | R | N |
| 11. I feel completely alone. | O | S | R | N |
| 12. I am unable to reach out and communicate with those around me. | O | S | R | N |
| 13. My social relationships are superficial. | O | S | R | N |
| 14. I feel starved for company. | O | S | R | N |
| 15. No one really knows me well. | O | S | R | N |
| 16. I feel isolated from others. | O | S | R | N |
| 17. I am unhappy being so withdrawn. | O | S | R | N |
| 18. It is difficult for me to make friends. | O | S | R | N |
| 19. I feel shut out and excluded by others. | O | S | R | N |
| 20. People are around me but not with me. | O | S | R | N |

Young Adult Relational Aggression Scale (YARAS)

Directions: These questions ask about your behavior in relationships with others. Please read each statement and rate how true it is for you.

1	2	3	4	5	6	7
Not at all true of me			Somewhat true of me			Very true of me

1. I try to damage the reputation of others who make me mad.
2. I share hurtful rumors about others when I am upset.
3. I spread malicious gossip about others when they hurt my feelings.
4. If someone wrongs me, I try to harm his/her friendships.
5. I flirt with someone else's partner if he/she makes me angry.
6. I threaten to share an embarrassing secret about someone when I'm mad at him/her.
7. If someone makes me mad, I try to make him/her look stupid in front of others.
8. I try to steal friends from others who have wronged me.
9. I tell harmful lies about others when I am mad.
10. I make others look bad in front of their friends when I am upset.

11. I try to damage the reputation of others to make myself look better.
12. I share hurtful rumors about others to get what I want.
13. I spread malicious gossip about others to be more popular.
14. I try to harm the friendships of others, even if they haven't done anything to me.
15. I flirt with someone else's partner to hurt his/her relationship.
16. I threaten to share an embarrassing secret about someone to get him/her to do what I want.
17. I try to make someone else look stupid in front of others to improve my status in a group.
18. I try to steal friends from others just to hurt them.
19. I tell harmful lies about others just for fun.
20. I make others look bad in front of their friends for fun.
21. I give others the silent treatment when I'm mad at them.
22. I ignore others when I am upset with them.
23. If I am angry with someone, I act like he/she doesn't exist.
24. When someone disappoints me, I act "cold" toward him/her.
25. I give others the silent treatment to get them to do what I want.
26. I ignore others to help me get what I want.
27. If I want to hurt someone, I act like he/she doesn't exist.
28. I threaten to stop being friends with someone so he/she will give in.
29. When I want someone to do what I want, I act "cold" toward him/her.
30. When I am angry with someone, I exclude him/her from social activities.

31. When I'm angry, I post things online to make someone feel rejected.
32. I sometimes exclude others when I'm mad at them.
33. When I want someone to do what I want, I exclude him/her from social activities.
34. I tell my friends not to associate with someone I don't like.
35. I post things online to make someone feel rejected, even if they haven't done anything to me.
36. I sometimes exclude others just to show them that I can.
37. I make negative comments about others online when they upset me.
38. I make negative comments about others online to make them look bad.

Depression, Anxiety, and Stress Scale – 21 (DASS-21)

Directions: Please read each statement and circle a number 0, 1, 2 or 3 that indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

- 0 Did not apply to me at all
- 1 Applied to me to some degree, or some of the time
- 2 Applied to me to a considerable degree, or a good part of time
- 3 Applied to me very much, or most of the time

1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3

6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (eg, in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15	I felt I was close to panic	0	1	2	3

Buss-Perry Aggression Scale

Directions: Please rate each of the following items from 1 to 7 in terms of how characteristics they are of you. Use the following scale for answering these items.

1 = Extremely characteristic of me - - - - - 7 = Extremely uncharacteristic of me

1.	Once in a while I can't control the urge to strike another person.	1	2	3	4	5	6	7
2.	Given enough provocation, I may hit another person.	1	2	3	4	5	6	7
3.	If somebody hits me, I hit back.	1	2	3	4	5	6	7
4.	I get into fights a little more than the average person.	1	2	3	4	5	6	7
5.	If I have to resort to violence to protect my rights, I will.	1	2	3	4	5	6	7
6.	There are people who pushed me so far that we came to blows.	1	2	3	4	5	6	7
7.	I can think of no good reason for ever hitting a person.	1	2	3	4	5	6	7
8.	I have threatened people I know.	1	2	3	4	5	6	7
9.	I have become so mad that I broke things.	1	2	3	4	5	6	7

10	I tell my friends openly when I disagree with them.	1	2	3	4	5	6	7
11	I often find myself disagreeing with people.	1	2	3	4	5	6	7
12	When people annoy me, I may tell them what I think of them.	1	2	3	4	5	6	7
13	I can't help getting into arguments when people disagree with me.	1	2	3	4	5	6	7
14	My friends say that I'm somewhat argumentative.	1	2	3	4	5	6	7
15	I flare up quickly but get over it quickly.	1	2	3	4	5	6	7
16	When frustrated, I let my irritation show.	1	2	3	4	5	6	7
17	I sometimes feel like a powder keg ready to explode.	1	2	3	4	5	6	7
18	I am an even-tempered person.	1	2	3	4	5	6	7
19	Some of my friends think I am a hothead.	1	2	3	4	5	6	7
20	Sometimes I fly off the handle for no good reason.	1	2	3	4	5	6	7
21	I have trouble controlling my temper.	1	2	3	4	5	6	7
22	I am sometimes eaten up with jealousy.	1	2	3	4	5	6	7
23	At times I feel I have gotten a raw deal out of life.	1	2	3	4	5	6	7
24	Other people always seem to get the breaks.	1	2	3	4	5	6	7
25	I wonder why sometimes I feel so bitter about things.	1	2	3	4	5	6	7
26	I know that "friends" talk about me behind my back.	1	2	3	4	5	6	7
27	I am suspicious of overly friendly strangers.	1	2	3	4	5	6	7
28	I sometimes feel that people are laughing at me behind my back.	1	2	3	4	5	6	7
29	When people are especially nice, I wonder what they want.	1	2	3	4	5	6	7

Rutgers Alcohol Problem Index

Directions: Different things happen to people while they are drinking ALCOHOL or because of their ALCOHOL drinking. Several of these things are listed below. Indicate how many times each of these things happened to you WITHIN THE LAST YEAR.

Use the following code:

0 = None

1 = 1-2 times

2 = 3-5 times

3 = More than 5 times

HOW MANY TIMES HAS THIS HAPPENED TO YOU WHILE YOU WERE DRINKING OR BECAUSE OF YOUR DRINKING DURING THE LAST YEAR?

- | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|
| 1. Not able to do your homework or study for a test | 0 | 1 | 2 | 3 |
| 2. Got into fights with other people (friends, relatives, strangers) | 0 | 1 | 2 | 3 |
| 3. Missed out on other things because you spent too much money on alcohol | 0 | 1 | 2 | 3 |
| 4. Went to work or school high or drunk | 0 | 1 | 2 | 3 |
| 5. Caused shame or embarrassment to someone | 0 | 1 | 2 | 3 |
| 6. Neglected your responsibilities | 0 | 1 | 2 | 3 |
| 7. Relatives avoided you | 0 | 1 | 2 | 3 |
| 8. Felt that you needed more alcohol than you used to in order to get the same effect | 0 | 1 | 2 | 3 |
| 9. Tried to control your drinking (tried to drink only at certain times of the day or in certain places, that is, tried to change your pattern of drinking) | 0 | 1 | 2 | 3 |
| 10. Had withdrawal symptoms, that is, felt sick because you stopped or cut down on drinking | 0 | 1 | 2 | 3 |
| 11. Noticed a change in your personality | 0 | 1 | 2 | 3 |
| 12. Felt that you had a problem with alcohol | 0 | 1 | 2 | 3 |
| 13. Missed a day (or part of a day) of school or work | 0 | 1 | 2 | 3 |
| 14. Wanted to stop drinking but couldn't | 0 | 1 | 2 | 3 |
| 15. Suddenly found yourself in a place that you could not remember getting to | 0 | 1 | 2 | 3 |
| 16. Passed out or fainted suddenly | 0 | 1 | 2 | 3 |
| 17. Had a fight, argument or bad feeling with a friend | 0 | 1 | 2 | 3 |
| 18. Had a fight, argument or bad feeling with a family member | 0 | 1 | 2 | 3 |
| 19. Kept drinking when you promised yourself not to | 0 | 1 | 2 | 3 |
| 20. Felt you were going crazy | 0 | 1 | 2 | 3 |
| 21. Had a bad time | 0 | 1 | 2 | 3 |
| 22. Felt physically or psychologically dependent on alcohol | 0 | 1 | 2 | 3 |
| 23. Was told by a friend, neighbor or relative to stop or cut down drinking | 0 | 1 | 2 | 3 |

Self-Report of Aggression and Social Behavior Measure (SRASBM)

Directions: This questionnaire is designed to measure qualities of adult social interaction and close relationships. Please read each statement and indicate how true each is for you, now and during the last year, using the scale below. Write the appropriate number in the blank provided. Remember that your answers to these questions are completely anonymous, so please answer them as honestly as possible.

Not at All			Sometimes			Very True
True			True			
1	2	3	4	5	6	7

1. I usually follow through with my commitments.
2. I try to get my own way by physically intimidating others.
3. I have a friend who ignores me or gives me the “cold shoulder” when s/he is angry with me.
4. I am willing to lend money to other people if they have a good reason for needing it.
5. My friends know that I will think less of them if they do not do what I want them to do.
6. I get jealous if one of my friends spends time with his/her other friends even when I am busy.
7. When I am not invited to do something with a group of people, I will exclude those people from future activities.
8. I have been pushed or shoved by people when they are mad at me.
9. I am usually kind to other people/
10. I am usually willing to help out others.
11. When I want something from a friend of mine, I act “cold” or indifferent towards them until I get what I want.
12. I would rather spend time alone with a friend than be with other friends too.
13. A friend of mine has gone “behind my back” and shared private information about me with other people.
14. I try to make sure that other people get invited to participate in group activities.
15. When someone makes me really angry, I push or shove the person.
16. I get mad or upset if a friend wants to be close friends with someone else.
17. When I have been angry at, or jealous of someone, I have tried to damage that person’s reputation by gossiping about him/her or by passing on negative information about him/her to other people.
18. When someone does something that makes me angry, I try to embarrass that person or make them look stupid in front of his/her friends.
19. I am willing to give advice to others when asked for it.
20. When I have been mad at a friend, I have flirted with his/her romantic partner.

21. When I am mad at a person, I try to make sure s/he is excluded from group activities (going to the movies or to a bar).
22. I have a friend who tries to get her/his own way with me through physical intimidation.
23. I make an effort to include other people in my conversations.
24. When I have been provoked by something a person has said or done, I have retaliated by threatening to physically harm that person.
25. It bothers me if a friend wants to spend time with his/her other friends, instead of just being alone with me.
26. I have threatened to share private information about my friends with other people in order to get them to comply with my wishes.
27. I make other people feel welcome.
28. When someone has angered or provoked me in some way, I have reacted by hitting that person.
29. I have a friend who excludes me from doing things with her/him and her/his other friends when s/he is mad at me.
30. I am usually willing to lend my belongings (car, clothes, etc.) to other people.
31. I have threatened to physically harm other people in order to control them.
32. I have spread rumors about a person just to be mean.
33. When a friend of mine has been mad at me, other people have "taken sides" with her/him and been mad at me too.
34. I have a friend who has threatened to physically harm me in order to get his/her own way.
35. I am a good listener when someone has a problem to deal with.
36. When someone hurts my feelings, I intentionally ignore them.
37. I try to help others out when they need it.
38. I have intentionally ignored a person until they gave me my way about something.
39. I have pushed and shoved others around in order to get things that I want.

APPENDIX D – DEMOGRAPHIC FORM

The following questions will be used to gather information about participants in this study. Please answer the questions accordingly.

Sex: ___ Male ___ Female ___ Other: _____

Age: _____

Race/Ethnicity:

- ___ African American/Black
- ___ White
- ___ Hispanic/Latino
- ___ Native Hawaiian/Pacific Islander
- ___ American Indian/Alaska Native
- ___ Asian
- _____ Other (specify)

College Status:

- ___ Freshman
- ___ Sophomore
- ___ Junior
- ___ Senior

Do you consider yourself to be

- ___ Heterosexual or Straight
- ___ Gay or Lesbian
- ___ Bisexual
- _____ Other (specify)

In the past, who have you had sex with?

- ___ Men only
- ___ Women only
- ___ Men and women
- ___ I have not had sex

People are different in their attraction to other people. Which best describes your feelings? Are you:

- ___ Only attracted to females
- ___ Mostly attracted to females

- Equally attracted to females
- Mostly attracted to males
- Only attracted to male

Are you in a Greek Life Organization? Yes No

Where do you live?

- College dorm
- Sorority or Fraternity house
- Off-campus housing

APPENDIX E – CONSENT FORM A

Consent is hereby given to participate in the study entitled: *Relational Aggression among College Students*

Purpose: This study is being conducted to further the development of a measure of relational aggression for use with a college student sample.

1. Description of Study: Participants will be asked to complete online questionnaires regarding engagement in relational aggression, physical aggression, and alcohol use as well as questionnaires about personality and various mental health symptoms.
2. Benefits: Although participants will receive no direct benefit from participation in this study, the information provided will enable researchers to further develop a measure of relational aggression for use with college students. Participants will receive 1 research credit for participating in this study.
3. Risks: There are no foreseeable risks to participating in this study. If you feel that completing these questionnaires has resulted in emotional distress, please stop and notify the lead researcher (Caitlin Clark, Caitlin.Clark@eagles.usm.edu). If you should decide at a later date that you would like to discuss your concerns, please contact the research supervisor, Eric Dahlen, Ph.D. (Eric.Dahlen@usm.edu). In the rare event of experiencing emotional distress, you may contact any of the following counseling service providers.

University Counseling Center
200 Kenard Washington Hall
Phone: 601-266-4829

Community Counseling and Assessment Clinic
Owings-McQuagge Hall, Room 202
Phone: 601-266-4601

4. Confidentiality: All information gathered in the study questionnaires will be anonymous. Your name is only requested on this form so that you may be awarded research credit. However, your name will not be associated with your questionnaire responses in any way. All information obtained will be kept strictly confidential. If any aspects of this study are changed after you have consented to participate, you will be informed of these changes so that you may evaluate your willingness to continue participation in this study.
5. Subject's Assurance: The researchers will use best scientific practice in order to insure the integrity of this study. Your participation in this study is voluntary and may be withdrawn at any time without penalty. In addition, you are free to omit any item you are not comfortable answering. If you have any questions concerning this study, please contact Caitlin Clark (Caitlin.Clark@eagles.usm.edu). This study and this consent form have been

reviewed by the Human Subjects Review Committee in order to ensure that all methods and procedures comply with federal regulations for conducting research with human subjects. If you have any questions or concerns regarding your rights as a research participant, please contact the Chair of the Institutional Review Board, University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-001.

Consent to Participate:

- a. I must be at least 18 years of age.
- b. I am being asked to complete a set of questionnaires, which will take approximately 45 minutes and for which I will receive 1 research credit, and
- c. All information I provide will be used for research purposes only and will be kept confidential.

I understand that my participation in this research is voluntary. If I decide to participate in the study, I may withdraw my consent and stop participating at any time without penalty or loss of benefits to which I am otherwise entitled.

I have read and understand the information stated, am at least 18 years of age, and give my consent to participate in this study. A copy can be printed by clicking on “file” at the top left and choosing “print” from the menu.

[Consent indicated by checking box on electronic consent form]

APPENDIX F – CONSENT FORM B

Consent is hereby given to participate in the study entitled: *Relational Aggression among College Students*

Purpose: This study is being conducted to further the development of a measure of relational aggression for use with a college student sample.

1. Description of Study: Participants will be asked to complete online questionnaires regarding engagement in relational aggression, physical aggression, and alcohol use as well as questionnaires about personality and various mental health symptoms.
2. Benefits: Although participants will receive no direct benefit from participation in this study, the information provided will enable researchers to further develop a measure of relational aggression for use with college students. Upon completion of the study, participants' names will be entered into a raffle to win one of two \$25.00 Visa gift cards. Winning participants will be notified via the contact information they provide to the researcher at the end of the online questionnaires.
3. Risks: There are no foreseeable risks to participating in this study. If you feel that completing these questionnaires has resulted in emotional distress, please stop and notify the lead researcher (Caitlin Clark, Caitlin.Clark@eagles.usm.edu). If you should decide at a later date that you would like to discuss your concerns, please contact the research supervisor, Eric Dahlen, Ph.D. (Eric.Dahlen@usm.edu). In the rare event of experiencing emotional distress, you may contact any of the following counseling service providers.

University Counseling Center
200 Kenard Washington Hall
Phone: 601-266-4829

Community Counseling and Assessment Clinic
Owings-McQuagge Hall, Room 202
Phone: 601-266-460

4. Confidentiality: All information gathered in the study questionnaires will be anonymous. Your name is only requested on this form so that you may be awarded research credit. However, your name will not be associated with your questionnaire responses in any way. All information obtained will be kept strictly confidential. If any aspects of this study are changed after you have consented to participate, you will be informed of these changes so that you may evaluate your willingness to continue participation in this study.
5. Subject's Assurance: The researchers will use best scientific practice in order to insure the integrity of this study. Your participation in this study is voluntary and may be withdrawn at any time without penalty. In addition, you are free to omit any item you are not comfortable answering. If you have any questions

concerning this study, please contact Caitlin Clark (Caitlin.Clark@eagles.usm.edu). This study and this consent form have been reviewed by the Human Subjects Review Committee in order to ensure that all methods and procedures comply with federal regulations for conducting research with human subjects. If you have any questions or concerns regarding your rights as a research participant, please contact the Chair of the Institutional Review Board, University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-001.

Consent to Participate:

- d. I must be at least 18 years of age.
- e. I am being asked to complete a set of questionnaires, which will take approximately 45 minutes and for which I will be eligible to win a \$25.00 Visa gift card, and
- f. All information I provide will be used for research purposes only and will be kept confidential.

I understand that my participation in this research is voluntary. If I decide to participate in the study, I may withdraw my consent and stop participating at any time without penalty or loss of benefits to which I am otherwise entitled.

I have read and understand the information stated, am at least 18 years of age, and give my consent to participate in this study. A copy can be printed by clicking on “file” at the top left and choosing “print” from the menu.

[Consent indicated by checking box on electronic consent form]

APPENDIX G – IRB Approval Letter



INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 16020502
PROJECT TITLE: Validation of the Young Adult Relational Aggression Questionnaire
PROJECT TYPE: New Project
RESEARCHER(S): Caitlin Clark
COLLEGE/DIVISION: College of Education and Psychology
DEPARTMENT: Psychology
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 02/05/2016 to 02/04/2017
Lawrence A. Hosman, Ph.D.
Institutional Review Board

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