

CHAPTER FIVE

Perfectionism, Self-esteem and Aggressiveness in Social Relationships in University Students.

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ABSTRACT

The psychological literature has explored various factors that can influence social relationships over the years. While perfectionism has received less attention from researchers than others, its direct relationship with certain aggressive behaviours has been established. The results of this synthesis review of 18 research articles shows that maladaptive perfectionism leads to lower self-esteem and is also linked to different types of aggressive behaviour (indirect, covert). In general, a perfectionism oriented toward achievement with high standards (self-directed and with reduced external pressures) relates to higher self-esteem and prosocial behaviour. However, these concepts interact in a more complex way than is immediately apparent, since self-esteem, maladaptive thoughts and consequent social behaviour will vary, depending on the dimension of perfectionism. For this reason, future research is needed to gather more data to investigate this interaction.

Keywords: Perfectionism, Self-Esteem, Aggressiveness, Post-Secondary Education.

INTRODUCTION

We are social beings living in a social world, continuously relating and communicating with other people, and these interactions are influenced by a multitude of factors. The literature has delved into a very wide variety of these topics, including some that focus on internal individual factors such as perfectionism (Fletcher & Shim, 2019; Öngen, 2009; Taylor et al., 2016). The role of perfectionism in social relationships is the subject of interest of many researchers that have established its relationship with stress, self-esteem and coping (Park et al., 2010), and with the individual's mental health in general (DiBartolo & Rendón, 2012).

Although less established, some data also points to an association between perfectionism and aggressive responses in social relationships—whether with authorities, parents or among peers (Contini, 2015). Such internal factors are important to understand because they determine the way we relate to others, including with aggressive or non-aggressive behaviour in certain social contexts.

THEORETICAL FRAMEWORK

Perfectionism

Over the past 30 years, the research on perfectionism has developed various theories and models on its genesis, effectiveness, functionality, and influence on human relationships—being initially described as a single transdiagnostic trait (present in different forms of disordered thinking; e.g., anxiety, mental rigidity, etc.). However, some of these models have become obsolete in favour of more modern ones that provide a great deal of descriptive utility, as well as both theoretical and practical implications. Although they all agree on its multidimensional nature (Frost et al., 1990; Hewitt & Flett, 1991), there remains disagreement on the organization of the various components of perfectionism, which

according to their interaction, can give rise to different classifications of the term, which means that this trait can be considered as functional or dysfunctional. Modern models of perfectionism derived from these proposals were developed in the first decade of the 20th century, which will be described in the following section.

Gaudreau and Thompson's 2x2 Model of Dispositional Perfectionism (2010)

This model combines evaluative concerns (behaviours are influenced by the positive or negative responses of others) and personal standards (internal laws that justify whether or not to engage in a behaviour) of perfectionism, resulting in 4 types of perfectionism: (1) *non-perfectionism* (low evaluative concerns and few personal standards), (2) *pure perfectionism of evaluative concerns* (high evaluative concerns and low personal standards; maladaptive), (3) *pure perfectionism of personal standard* (high self-imposed personal standards and low evaluative concerns; adaptive) and (4) *mixed perfectionism* (high levels of both personal standard and evaluative concerns).

In a recent study with Spanish children and adolescents, Vicent et al. (2018) found that high levels of aggressiveness (anger, hostility, and verbal and physical aggression) were strongly related to mixed perfectionism, with the combination of both being the most maladaptive. The most aggressive behaviours were more strongly related to evaluative concern perfectionism (more linked to perceived external pressures) than personal standards perfectionism (more oriented to self-impositions).

Otto & Stoeber's Tripartite Model of Perfectionism (2006)

In this tripartite model, three categories are differentiated according to the dimensions of perfectionist concerns and efforts: (1) *healthy perfectionism* (high efforts and low perfectionist concern), *unhealthy perfectionism* (both high efforts and high perfectionist

concerns; maladaptive) and *non-perfectionism* (low levels of both effort and perfectionist concern).

Hewitt & Flett's Multidimensional Model of Perfectionism (1991):

Hewitt and Flett (1991) argue that perfectionism is multidimensional, categorizing it into (1) *self-oriented perfectionism* (high self-imposed; "I must" statements), (2) *other-oriented perfectionism* (high levels of demands on others), and (3) *socially prescribed perfectionism* (the belief that others expect perfection and will not accept less). Studies such as the one by Vicent et al. (2018) mentioned above indicate a positive association of both socially prescribed and self-oriented perfectionism with some forms of aggressiveness, reflecting the intra- and interpersonal facets of perfectionism.

Frost's Multidimensional Model of Perfectionism (1990)

Also adopting a multidimensional construct of perfectionism, Frost makes a distinction between six relevant types: (1) *concern for mistakes* (overreaction to failures), (2) *personal standard* (imposing too high demands on oneself), (3) *parental expectations* (one's belief that their parents will not approve/accept them if certain expectations are not met), (4) *parental criticism* (perception of high parental criticism), (5) *doubts about actions* (questioning one's own actions, which does not allow complete satisfaction to be achieved) and (6) *organization* (excessive preference for order and precision).

Depending on the components of perfectionism that predominate, it can be adaptive and functional so that it benefits the person when performing an activity or acting in its context. Conversely, it can also be maladaptive, impairing life functioning, and can lead to guilt, depression, low self-esteem, anxiety, inadequate coping strategies (Otto & Stoeber, 2006), social problems, stress and eating disorders (Park et al., 2010).

Perfectionism, Social Relationships and Tendency to Aggressiveness Among Peers

This construct of perfectionism is a crucial factor in how we relate to others because of how it influences the way we behave and perceive our social relationships. The various levels of the six different dimensions described by Frost's model are also combined with other internal psychological processes that determine behaviour. Some act as moderators in subsequent negative emotional responses like fear of failure, as highlighted by Pineda-Espejel et al. (2019) in their study with perfectionist athletes (specifically interpersonal perfectionism), and by Elison and Partridge (2012) who found a relationship between maladaptive perfectionism and fear of failure in college athletes.

Extensive research has established that various factors other than perfectionism play key roles in social behaviour. More recent research has therefore focused on the relationship between perfectionism and internal mental processes that may intervene, to explore how these are associated with certain behaviours. This has included attempts to establish cause and effect, which variables moderate these relationships, and the strength of their associations.

One such important psychological process that influences our social relationships and perceptions of them is self-esteem. For many years, self-esteem has been studied in various fields of psychology, and its role in moderating behaviour in the contexts of daily life (e.g., academic, work, sports, social, etc.) has been well demonstrated. For example, Park et al. (2010) investigated self-esteem and its relationship with perfectionism and found the connection to be more complex than it might seem. These internal processes (low self-esteem) can result in poor emotional management that can lead to emotional dysfunction, as well as things like frustration, impulsivity, stress, etc., which can manifest as aggressive behavioural responses (physical, verbal or psychological).

At this point, it is worth distinguishing between specific aspects of these factors. Regarding perfectionism, different associated patterns have been discussed either as a *trait* or *cognition*. Several authors have used it in their research as a personality trait (e.g., Caputto et al., 2015; García-Fernández et al., 2016) that can be differentiated between adaptive and maladaptive. Others (e.g., Roselló & Maysonet, 2016) have given it a more cognitive application, arguing that it is a thought pattern conditioned through various environmental influences.

The results of various research studies have supported both interpretations. Thus, we can refer to perfectionism as a trait, which gives rise to frustration from not achieving high standards, thereby damaging self-esteem, self-concept, and self-worth. Considering a more cognitive application, perfectionist thoughts are influenced by external factors (people or environmental context), so that low self-esteem can also be a determinant in establishing perfectionist tendencies. It can therefore be stated that perfectionism and self-esteem influence each other bidirectionally.

Other studies have found that self-esteem varies in relation to perfectionism differently depending on the dimension of perfectionism in question. For example, Helguera and Oros (2018) found that Argentine university students with an adaptive form of perfectionism tended to have higher self-esteem.

Self-Esteem as a Mediating Element in Social Relations

Psychological research has shown that high or low self-esteem is influential in the development of one's personality and their tendency toward either adaptive or maladaptive behaviours in social relationships. For example, low self-esteem stemming from frustration has been associated with aggressive behaviours (e.g., Donnellan et al., 2005), while high self-esteem has been linked to greater kindness and prosocial behaviours (e.g., Fu et al.,

2017; Zuffianò et al., 2014).

In terms of aggressive behaviours in social relationships, we can refer to aggression toward peers, authorities, or parents, etc., depending on the type of relationship and the context in which it is established. Peer aggression is one of the most common types, and the research on it consistently promotes the maxim that improving self-esteem is a remedy for it (van Geel et al., 2018). In the face of different types of social relationships in the university context, the need to bolster self-esteem is considered highly relevant in accounting for both aggressive behaviour and the impact on those who are victimized by it. Examples of this have been found in studies on intimate relationships (Pazos et al., 2014; Viejo et al., 2020), sibling relationships (Yu & Gamble, 2008), relationships in educational contexts (Park et al., 2010), in urban contexts (Liu & Kaplan, 2004; Street et al., 2016), and even in sports (Stafford et al., 2013).

A review of the literature demonstrates the influence of self-esteem as an internal process that creates preconceptions about one's social relationships, which is associated with meeting the norms, standards, and lifestyles of an already predetermined social role (Collins & Strelan, 2021), which can result in perfectionism. Although the association between the two processes is clear, contradictions remain as to the causal direction—whether perfectionism changes self-esteem or self-esteem determines levels of perfectionism in social relationships (Deuling & Burns, 2017; Hall et al., 2009).

OBJECTIVES

This article aims to investigate the interaction between perfectionist traits and their links with self-esteem, which moderate the behaviour of university students in their social relationships. We will describe how the scientific literature has dealt with this relationship in recent years, with emphasis on aggressive responses resulting from this interaction.

METHODOLOGY

This study is a theoretical investigation in the form of a systematic review, following the procedures recommended by Fernández-Ríos and Buéla-Casal (2009), and the criteria for systematic review studies established by PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses).

Search Strategy for Study Identification and Selection

The electronic search of indexed articles was carried out between January and April of 2021 in the Scopus, Web of Science and ProQuest databases. Intending to cover a representative number of studies, we chose to use a crossing of the terms "**perfectionis***" (which includes terms such as "perfectionistic" and "perfectionism"), "**aggressi***" (which includes terms such as "aggressiveness", "aggression", and "aggressive"), and "**self-esteem**", and prescribers that refer to the population under study (young adults, university students, etc.) interconnected with the AND operator.

Inclusion Criteria

For the inclusion criteria, we chose to focus on articles published in indexed scientific journals, regardless of the date of publication. For this phase, we considered papers written in English or Spanish. For each database, a document was created from the searches containing the titles, abstracts, authors and year of each article found.

The titles and abstracts of the articles were independently reviewed by all authors, and articles that did not meet the inclusion criteria were eliminated.

Exclusion Criteria

Articles were excluded from the study if they were: (a) publications in manuals or popularization texts; (b) articles in a language other than English or Spanish; (c) articles from which the full text could not be obtained; (d) articles from review and/or meta-analyses; or (e) articles whose sample did not include university students or young adults.

All steps, including the search, organization and selection of studies, were performed independently by two investigators. If the two investigators disagreed about the application of the inclusion and exclusion criteria, a third investigator was consulted. A concordance rate of more than 95% was achieved, so that all divergences were resolved by the third investigator.

Figure 1 shows a flow chart of the selection process. Following the proposed search methodology, 429 total studies were found. The database with the highest number of articles found was SCOPUS ($n = 218$), followed by ProQuest ($n = 116$) and Web of Science ($n = 95$). These 429 articles were then winnowed to 18 that met all eligibility criteria described above.

Having selected the 18 texts, they were read in detail to extract information according to the Population, Intervention, Comparator, Outcome, Study Design (PICOS) methodology, indicating: (1) author(s) and year; (2) country; (3) characteristics of the sample or population; (4) evaluation instruments; (5) methods; (6) associated variables; and (7) conclusions (Table 1). The results of each selected study were then analyzed and interpreted.

RESULTS and DISCUSSION

Sociodemographic Characteristics

The total sample population of the 18 papers included $n = 8,616$ participants. All of

them were university students, with 38.31% men ($n = 3,301$) and 61.59% women ($n = 5,306$). The mean age was 20.77 years ($SD = 2.22$), based on the 16 out of 18 articles that included age data.

The general pattern in the papers included in this review, show how men with perfectionist tendencies tend to maintain relationships based on more adaptive behaviours (e.g., higher academic performance), women tend to maintain relationships based on both adaptive and maladaptive behaviours (e.g., lower self-esteem, higher evaluative concerns, etc.). One included article in this review (Taylor et al., 2016) focused exclusively on women, finding that perfectionism of personal standards was associated with better self-esteem, whereas perfectionists focused on evaluative concerns tended to have lower self-esteem.

In relation to the cultural context, the included articles represented a diversity of countries, most of them being from the Asian continent ($n = 10$, including India, China, Japan, South Korea, Pakistan, Turkey and Israel) and the rest from American countries ($n = 8$; 7 from the United States and/or Canada, and 1 from Argentina).

Measurements and Instruments

A series of questionnaires were used to collect data on the different variables. In some of the studies, brief sociodemographic information was also collected, including ethnicity or race, socioeconomic level, the university degree they are enrolled in, and year of study.

The assessment instruments most commonly used to measure perfectionism in relation to social relationships, the Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991) and the Frost Multidimensional Perfectionism Scale (FMPS; Frost, 1990) were generally administered when perfectionist orientations were intended to be described as traits; whereas the Almost Perfect Scale-Revised (APS-R; Slaney et al. 2001) and the

Perfectionist Cognitions Inventory (PCI; Flett et al., 1998) were used when perfectionist attitudes were considered to be cognitions and thoughts.

The studies that took self-esteem into account mainly used the Rosenberg's Self-Esteem Scale (1965), which considers both perfectionist traits and perfectionist cognitions. For aggression in social relationships, the Aggressiveness Questionnaire (AQ) by Buss & Perry (1992) also linked to both traits and cognitions, was used ($n = 4$); as well as the Direct and Indirect Aggression Questionnaire (DIAS; Bjorkqvist et al., 1992), which is linked to perfectionist and narcissistic traits ($n = 1$). Other instruments were used to obtain data relevant to more prosocial behaviours, such as the Social Skills Inventory (SSI; Riggio et al., 1986; $n = 1$), the Multidimensional Intimate Coping Questionnaire (Pollina & Snell, 1999; $n = 1$), and the Communication Styles Inventory (CSI; De Vries et al., 2013; $n = 1$).

Other measures used in these studies emphasize psychopathological aspects such as depression or anxiety (e.g., CES-D, STAI, DASS), psychosocial aspects such as loneliness (e.g., the UCLA Loneliness Scale), assertiveness (e.g., RAS), or motivation for friendship (e.g., FMS). Others emphasize psychological resources such as coping (e.g., PF-SOC), automatic thoughts (e.g., ATQ), locus of control (e.g., I-E LC) or subjective well-being (e.g., SWBS) (see Table 1).

Linked Variables

While it is true that these three main variables (perfectionism, self-esteem and aggressiveness) interact with each other in some way, there are other related concepts that influence their effects. Thus, depression, for example, is a concept to be considered in relation to extreme levels of perfectionism, anxiety (or stress) is considered a consequence of one's poor interaction with their environment, and their own perception and

interpretation of it that moderates the way they behave.

Some findings also showed that internal processes (e.g., attachment and affect) influence how social relationships are produced (e.g., Dunkley et al., 2012). Personal values (linked to feelings of group membership or personal identification) are reflected through expressions of emotional dependence (e.g., friendship motivation, narcissism), and translated into feelings of collectivism or individualism that are characteristic of certain cultures (Wang et al., 2012).

In addition, other concepts associated with emotional aspects such as, for example, loneliness, shame (Flett et al., 1996), anger or fear (Dunkley et al., 2012); or the cognitive approach to attachments such as locus of control of actions (Karatas & Tagay, 2012), both in relation to self and others, were analysed together with the core variables of this review.

Where emotional states, especially fear, or negative affect, can become modulating variables for perfectionistic tendencies or profiles such as highly self-critical. Meanwhile, self-esteem, specifically high self-esteem, was associated with greater well-being, with people with low levels of self-esteem tending to have a high internal locus of control and higher levels of perfectionism. Overall, self-esteem was the main predictor of well-being, in addition to external locus of control and a high degree of socially prescribed perfectionism.

Finally, some studies (Besser et al., 2008) collected data on different physiological responses (e.g. blood pressure) to see if there were variations in these responses in specific social situations, and thus whether these reactions can be associated with the different traits studied together, such as perfectionism.

Designs and Methodologies Used

Most of the studies included in the review (17 of 18) used a cross-sectional design,

while one used a longitudinal design that collecting data from the participants daily for one week. Specifically, the aim was to evaluate and understand the statistical relationship between two or more concepts or variables in order to reach a conclusion that relates them, with 17 studies of a quantitative-correlational type, and one experimental type where one of the variables was manipulated to study how the dependent variables behaved.

CONCLUSION

This literature review described different typologies of perfectionistic social interactions of university students. While it is well known that perfectionism influences behaviour, this relationship is more complex than it may appear due to the involvement of various mediating factors.

Following Hewitt & Flett's (1991) model, the most adaptive or functional perfectionism has been found to be self-oriented perfectionism, which is linked to less aggressive behaviour and better social skills. This type of perfectionist tends to have higher self-esteem than others, which serves as a protective factor against mental illness symptoms such as anxiety and depression. This contributes to a good social climate, as these perfectionists tend to actively use positive and functional coping strategies (e.g., forgiveness, assertiveness, and empathy) against maladaptive processes (e.g., stress, depression, anger, etc.), showing less aggressive behaviours.

Conversely, it has also been argued such as that in stressful situations (e.g., choice of studies, studying for exams, or career decisions), self-oriented perfectionists present high levels of stress under the influence of avoidant coping strategies (e.g., social isolation, social comparison).

The results of the studies included in this review, show that perfectionists who pursue and self-impose prescribed standards in their social contexts are the most

maladaptive of type all. High demands and poor psychosocial adjustment lead to shame, loneliness, lower self-esteem and fear of negative evaluation, causing stress. This type of perfectionism can also provoke social disconnection (e.g., review the Social Disconnection Model of Perfectionism proposed by Hewitt et al., 2006), avoiding negative social experiences and falling into a destructive feedback loop.

At the interpersonal level, this profile of people present aggressiveness manifested through various forms of hostility (e.g., verbal manipulation, abuse of power, use of force), as well as distrust towards others. Between high personal standards and high discrepancy (personal and external interpretation of reality), the latter is what differentiates functional perfectionists from non-functional ones, where in dissonance between the perceived value of actions and the reality can lead to distress, depression, lower self-esteem, and social conflicts in family and friend relationships.

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Figure 1

Flow chart of the article selection process

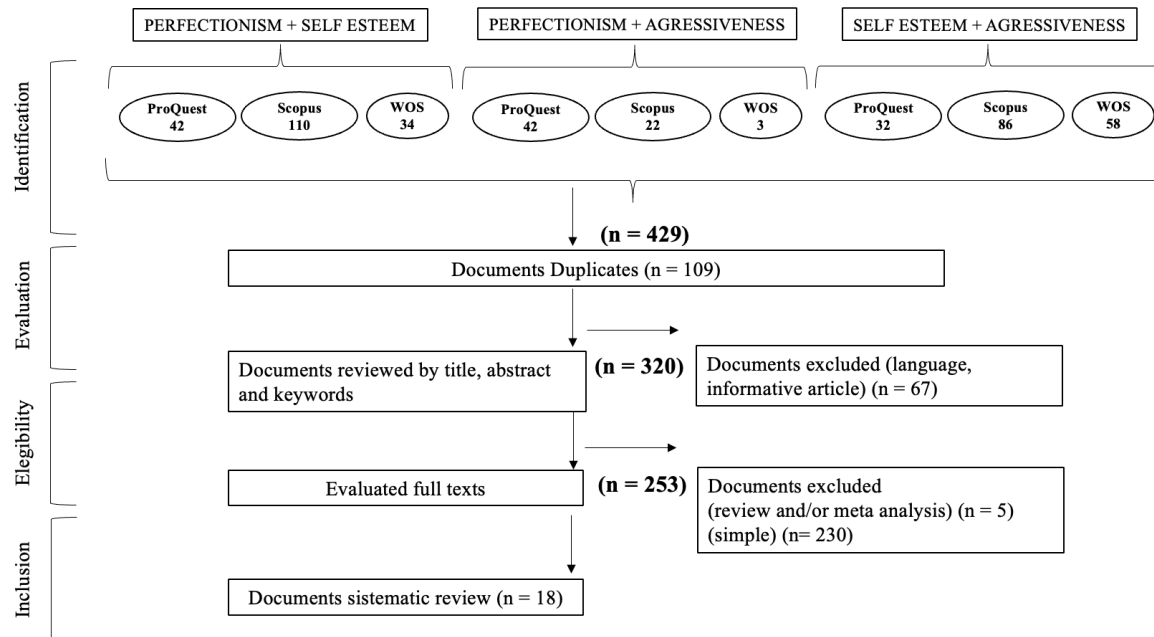


Table 1

Summary of the results of the 18 articles selected for review (in chronological order)

Author(s) (Year)	Country	Sample	Evaluation instruments	Method/Design	Associated variables	Main findings/conclusions
Flett et al. (1996)	United States	105 university students 37 men 68 women	Multidimensional Perfectionism Scale (MPS; Hewitt & Flett, 1991) Social Reticence Scale (Jones et al., 1989) UCLA Loneliness Scale (Russell et al., 1980) Rathus Assertiveness Scale (Rathus, 1973) Texas Social Behavior Inventory (Helmreich & Stapp, 1974) Fear of Negative Evaluation Scale (Leary, 1983) Social Skills Inventory (Riggio, 1986)	Cross-sectional, quantitative-correlational	Perfectionism, loneliness, shame, assertiveness, fear of evaluations negative and self-esteem social	Socially prescribed perfectionism is the most maladaptive because it is related to a poor psychosocial fit (increased loneliness, embarrassment, fear of negative evaluations and low self-esteem). Perfectionism oriented towards oneself and others can also be associated with good social skills in certain areas, though when oriented towards others it involves high levels of assertiveness.
Bradshaw & Hazan (2006)	United States	125 university students 30 men 95 women <i>M</i> = 19.9 yrs <i>SD</i> = 1.61 yrs	Aggression Questionnaire (AGQ; Buss & Perry, 1992) Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) The Assessment of Schema (Salzer Burks et al., 1999)	Cross-sectional, quantitative-correlational	Aggressiveness, vision of one and vision of the and discrepancy of those two visions	A negative view towards others was related to aggressiveness, both covertly and overtly (verbal and physical), while a negative view of oneself only affected covert aggressiveness. Those with low self-esteem tended to show more covert aggressive behaviour in the form of anger and hostility. There were no differences in the aggressiveness of those who showed the discrepancy between self and others and those who did not.
Wang et al. (2007)	China	273 university students 159 men 111 women <i>M</i> = 19.75 yrs <i>SD</i> = 1.78 yrs	RSES Almost Perfect Scale-Revised (APS-R; Slaney et al., 1996) State-Trait Anxiety Inventory (STAI; Spielberger et al., 1970) Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977) Individual- and Social-Oriented Achievement Motivation Scale (Yu & Yang, 1987)	Cross-sectional, quantitative-correlational	Achievement motivation, anxiety, depression, self-esteem, and perfectionism	Adaptive perfectionists had higher self-esteem and less depression and anxiety, while maladaptive perfectionists had less self-esteem and more depression and anxiety. The fourth group of perfectionists (high discrepancy and low standard) that presents low achievement motivation self-imposed and discharge of responsibility by others.

Blankstein et al. (2008)	Canada & United States	386 university students 94 men 292 women <i>M</i> = 20.5 yrs <i>SD</i> = 4.1 yrs	MPS Frost Multidimensional Perfectionism Scale (FMPS; Frost, 1990) Almost Perfect Scale-Revised (APS-R; Slaney et al., 1996) Survey of academic and personal concerns by Gallagher et al. (1992) Weighted mean of yearly grades Extended Rosenberg Self-Esteem Questionnaire (Metalsky et al., 1993; Blankstein et al., 2007)	Cross-sectional, quantitative-correlational	Sex differences, self-esteem, standard personal, concerns average number of academic grades, personal and academic concerns	Self-esteem acted as a mediator of perfectionism, so that lower self-esteem was related to high evaluative concerns and high standards. Personal standards were related to both adaptive (high standards) and maladaptive (high evaluative concerns) aspects in women, although in men they seemed to be more adaptive. In relation to academic grades, low self-esteem impairs grades due to high evaluative concern.
Besser et al. (2008)	Israel	200 university students 100 men 100 women <i>M</i> = 23.63 yrs <i>SD</i> = 2.92 yrs	MPS Short versions of the Perfectionistic Cognitions Inventory (Flett et al., 1998) Automatic Thoughts Questionnaire (Hollon & Kendall, 1980) Automatic Thoughts Questionnaire - positive version (Ingram & Wisnicki, 1988) Visual Analogue Scale (VAS; Hayes, 1921) Self-Esteem Status, modified version of Current Thoughts Scale (Heatherton & Polivy, 1991) Physiological measures (blood pressure) and reaction time on task	Cross-sectional, experimental	Perfectionism, anxiety, depression, hostility, self-esteem, automatic thoughts, blood pressure, task feedback	Those who presented perfectionist traits and automatic thoughts tended to show low positive affect and high anxiety and hostility. All participants showed more errors and less self-esteem when receiving negative feedback. When receiving positive feedback all presented higher self-esteem and task efficacy. Both social and performance self-esteem relate only to socially prescribed perfectionism in a negative way.
Park (2010)	South Korea	508 university students 272 men 236 women <i>M</i> = 20.56 yrs <i>SD</i> = 2.19 yrs	FMPS RSES Problem-Focused Style of Coping (Heppner et al., 1995) Brief Symptom Inventory (Derogatis & Spencer, 1982) Interpersonal Problems - Short Circumplex version (Soldz et al., 1995)	Cross-sectional, quantitative-correlational	Coping strategies, evaluative concerns perfectionism (worry about mistakes and doubts about actions), self-esteem, distress (distress) and interpersonal difficulties	A high level of perfectionism of evaluative concerns leads to the acquisition of poor coping strategies, which affects self-esteem and consequently impairs interpersonal relationships, resulting in distress.

Dunkley et al. (2012)	Canada	163 university students 64 men 99 women <i>M</i> = 20.02 yrs <i>SD</i> = 2.28 yrs	FMPS MPS Depressive Experiences Questionnaire (Blatt et al., 1976) Multidimensional Rosenberg's Self-Esteem (Rosenberg, 1979) Relationship Scale Questionnaire (Griffin & Bartholomew, 1994) Positive and Negative Affect Checklist (Watson et al., 1988)	7-day longitudinal, quantitative-correlational	Negative affect, self-esteem, fear of attachment, perfectionism (self-criticism and personal standards)	Self-criticism perfectionism was associated with days when participants showed less self-esteem and greater negative affect and fear of attachment (such as closeness, dependence, or loss). Both of self-critical and high-level perfectionists reacted emotionally when self-esteem decreased, whereas when fear of closeness increased, only self-critical perfectionists were emotionally affected. Highly self-critical perfectionists present more instability in self-esteem, negative affect and fear of loss and proximity.
Wang et al. (2012)	India	132 university students 23 men 109 women <i>M</i> = 21.22 yrs <i>SD</i> = 1.17 yrs	RSES CES-D APS-R Family Almost Perfect Scale (Wang et al., 2010) Individualism-Collectivism Scale (Triandis, 1995).	Cross-sectional, multicultural, quantitative-correlational	Perfectionism (personal and family), self-esteem, depression, collectivist values	The values of collectivism moderate the relationship between family perfectionism and variables such as depression or personal and family discrepancy (the perception of not meeting the high family standards). High levels of discrepancy between the real and perceived value of their actions differentiates maladaptive perfectionists from adaptive ones. In addition to lower self-esteem, maladaptive perfectionists also have higher levels of depression and family discrepancy compared to adaptive or non-perfectionists. Perfectionism moderates mental health regardless of culture.
Okada (2012)	Japan	262 university students 101 men 161 women <i>M</i> = 20.1 yrs <i>SD</i> = 1.05 yrs	AGQ RSES as adapted by Yamamoto et al. (1982) Friendship Motivation Scale (Okada, 2005)	Cross-sectional, quantitative-correlational	Self-determination as a motivation for friendship (RAI index), self-esteem and aggressiveness	Those with self-determination as a friendship motivation exhibit less anger and hostility, which in turn predicts higher levels of self-esteem. Unexpectedly, self-determination as a motivation for friendship was associated with verbal aggression, which predicts high self-esteem.

Karatas & Tagay (2012)	Turkey	318 university students 119 men 199 women	MPS RSES as adapted by Cuhadaroglu (1986) Subjective Well-Being Scale (Tuzgöl Dost, 2005) Rotter's Internal-External Locus of Control Scale (Rotter, 1966)	Cross-sectional, quantitative-correlational	Locus of control, subjective wellbeing, perfectionism, and self-esteem	High self-esteem was associated with greater well-being. Those with low well-being tend to have a high internal locus of control and higher levels of perfectionism. Overall, self-esteem was the main predictor of well-being, in addition to external locus of control and a high degree of socially prescribed perfectionism.
Camadan & Yazici (2017)	Turkey	2744 university students 1251 men 1493 women <i>M</i> = 20.89 yrs <i>SD</i> = 1.6 yrs	MPS AGQ Heartland Forgiveness Scale (Thompson et al., 2005) Multidimensional Intimate Coping Questionnaire (Pollina & Snell, 1999)	Cross-sectional, quantitative-correlational	Perfectionism, aggressiveness, forgiveness, and stress coping (negative and passive; positive and active)	High perfectionism explains low levels of forgiveness, absence of negative/passive coping and presence of aggression. Forgiveness is related to the absence of negative/passive coping and low aggressiveness. As for positive/active coping, it is related to high perfectionism and explains aggressive behaviour. There is a correlation between perfectionism and aggressiveness wherein aggressive people tend to be perfectionist and use negative/passive strategies to cope with stress.
Anwar et al. (2016)	Pakistan	155 university graduates 84 men 71 women <i>M</i> = 21.4 yrs <i>SD</i> = 2.1 yrs	RSES Narcissistic Personality Inventory (Raskin & Hall, 1979, 1981) Direct and Indirect Aggression Scale (Bjorkqvist et al., 1992)	Cross-sectional, quantitative-correlational	Narcissism, self-esteem, and aggressiveness	In explaining aggressiveness, people with a narcissistic behaviour pattern positively predict more aggressive behaviours, while those with higher self-esteem are negatively related, with those with low self-esteem being less aggressive. In gender differences, men show more aggressive behaviours than women narcissistic than women.
Athulya et al. (2016)	India	192 university students 60 men 132 women <i>M</i> = 21.22 yrs <i>SD</i> = 2.38 yrs	FMPS RSES Lay's Procrastination Scale (Lay, 1986) Coping Orientation to Problems Experienced - brief version (Brief-COPE; Carver, 1997) Depression, Anxiety and Stress Scale (DASS; Lovibond & Lovibond, 1995)	Cross-sectional, quantitative-correlational	Procrastination, perfectionism, coping, self-esteem, and distress	No association was found between perfectionism and procrastination. Higher the level of perfectionism were associated with avoidant coping strategies related to low self-esteem (except with adaptive perfectionists). Procrastinators also tended to have low self-esteem. Maladaptive perfectionism predicted low self-esteem and high distress.

Taylor et al. (2016)	United States	290 female university students <i>M</i> = 19.68 yrs <i>SD</i> = 1.5 yrs	FMPs RSES	Cross-sectional, quantitative-correlational	Female gender, perfectionism, self-esteem	A high degree of personal standards perfectionism had a large positive effect on self-esteem, whereas those with high levels of evaluative concerns perfectionism tended to have low self-esteem. Mixed perfectionism predicts higher self-esteem than purely evaluative concerns, but less than purely personal standards.
Barnett & Johnson (2016)	United States	813 university students 233 men 580 women <i>M</i> = 20.56 yrs <i>SD</i> = 2.19 yrs	APS-R Communication Styles Inventory (De Vries et al., 2013) Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988)	Cross-sectional, quantitative-correlational	Perfectionism, communication styles (emotional, aggressive, precise), perceived social support	Maladaptive perfectionism had a direct negative effect on perceived social support. However, this group also presented high levels of emotional expressiveness, which moderates the effects on perceived social support, increasing it indirectly. They also tended to be more aggressive and less accurate, which also negatively influences perceived social support. In general, communication styles are a moderating mechanism for perceived social support in maladaptive perfectionists.
Stoeber et al. (2017)	United States	1133 university students 226 men 902 females <i>M</i> = 19.9 yrs <i>SD</i> = 3.6 yrs	MPS AGQ General Confidence Scale (Yamagishi & Yamagishi, 1994) Basic Empathy Scale (Jolliffe & Farrington, 2006) General Spirituality Scale (Marcus et al., 2014)	Cross-sectional, quantitative-correlational	Perfectionism, aggressiveness, confidence, empathy, and spirituality	Perfectionists of the socially prescribed and other-oriented types presented social disconnection and interpersonal hostility (various forms of aggression, hostility, mistrust). Conversely, those exhibiting self-oriented perfectionism, despite not having a strong association, are positively related to distrust and certain types of aggression (showing hostility and social disconnection), and to a lesser extent, also to empathy, through small levels of social connectedness.
Helguera & Oros (2018)	Argentina	341 university students 197 men 144 women <i>M</i> = 21.76 yrs <i>SD</i> = 2.81 yrs	APS-R RSES	Cross-sectional, quantitative-correlational	Perfectionism and self-esteem	Those with high perfectionist discrepancy strongly tended to have lower self-esteem. On the other hand, those with high standards perfectionism showed higher self-esteem. In general, adaptive perfectionists (high standard and low discrepancy) have higher self-esteem than maladaptive (high standard and higher discrepancy) or non-perfectionists (low standard).

Kang et al. (2020)	South Korea	476 university students 251 men 224 women <i>M</i> = 21.24 yrs <i>SD</i> = 2.38 yrs	MPS RSES Career Decision Scale (Osipow et al., 1976) Career Stress Inventory (Park, 2009) Coping Strategy Indicator (Amirkhan, 1990)	Cross- sectional, quantitative- correlational	Career indecision, career stress, perfectionism, self- esteem, and coping styles.	Self-oriented perfectionism was related to higher career stress and lower indecisiveness. Other-oriented perfectionism increases when career stress and indecisiveness decrease, whereas socially prescribed perfectionism is associated with higher stress. Self-esteem reduces socially prescribed perfectionism, and thus stress and career indecision, causing people to choose problem-focused coping styles rather than avoidant ones.
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Notes. MPS = Multidimensional Perfectionism Scale (Hewitt & Flett, 1991). FMPS = Frost Multidimensional Perfectionism Scale (Frost, 1990). AGQ = Aggression Questionnaire (Buss & Perry, 1992). RSES = Rosenberg Self-Esteem Scale (Rosenberg, 1965). APS-R = Almost Perfect Scale-Revised (Slaney et al., 1996). CES-D = Center for Epidemiological Studies Depression Scale (Radloff, 1977).