

**RESILIENCE IN ADOLESCENCE
CONDITIONS AND EFFECTS**

**RESILIENCIA EN LA ADOLESCENCIA
CONDICIONANTES Y EFECTOS**

Tesis Doctoral

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2017



Facultad de Psicología

Departamento de Psicología Evolutiva y de la Educación

Programa de doctorado “Desarrollo, Aprendizaje y Educación”

TESIS DOCTORAL

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Nota acerca del idioma:

En la redacción de la presente tesis doctoral se han utilizado dos idiomas: español e inglés. Los apartados *Resumen*, *Introducción*, *Resumen de los artículos*, *Conclusiones*, *Implicaciones prácticas* y *Limitaciones y líneas de trabajo futuras* han sido escritos en español y en inglés, mientras que los artículos están redactados íntegramente en inglés (idioma original en el que fueron redactadas las investigaciones para su posterior publicación en revistas científicas internacionales). Por último, se ha añadido un anexo en el que se incluyen los cuestionarios utilizados para la elaboración de esta tesis (en español, inglés y francés).

Esta investigación ha recibido apoyo económico del **Australian Government Department of Education** mediante la ayuda para la investigación “**The Endeavour Research Fellowship**”.

A su vez, ha colaborado la **Fundación Gutiérrez Manrique** - administrada por la Fundación Caja de Burgos – a través del programa “**Jóvenes Excelentes**”.

*“Siempre”
“en todo momento”
“cuando lo necesites”
“para lo que quieras”
“¿te puedo ayudar?”*

Porque con ese punto de partida la vida ya se pronosticaba maravillosa. A mis padres y a mi hermana, por ser tan incondicionales cuando se trata de dar, y por esa incommensurable capacidad de amar. Nací con el todo y con el siempre.

Agradecimientos

Mientras escribo estas líneas, pienso en la gran suerte que tengo de poder reflejar por escrito lo inmensamente agradecida que estoy hacia aquellos que me habéis acompañado a lo largo de este camino. Mi mente se evade por momentos al baño de la casa de mis padres, cuando era pequeña, y soñaba frente al espejo - con un bote de champú a modo de "Oscar" en la mano - con lo que diría a todas aquellas personas hacia las que tan agradecida me sentía. El escenario ha cambiado, y parte de la historia también, pero el sentimiento sigue intacto: mi mayor virtud es rodearme de personas maravillosas, que hacéis que esta senda cobre todo su sentido.

La oportunidad de trabajar y aprender de un gran maestro ha constituido "ese sentido" que tiene la tesis para mí. Jesús Alonso Tapia, me siento profundamente agradecida por esas sesiones caleidoscópicas que me colmaban de ilusión y hacían que progresara en mi aprendizaje. Cada una de ellas ha sido un viaje al entusiasmo a través del conocimiento, un viaje hacia la conquista de mí misma y hacia la comprensión de mis límites y mi potencial. Porque el mayor aprendizaje sobre "motivación" que me llevo gracias a esta tesis ha sido consecuencia de vivir tan de cerca tu trabajo; en ocasiones acudía a tu despacho viendo la tesis entre nubarrones y salía con el cielo despejado. El plantearme después "¿cómo lo ha hecho esta vez?" y la posterior reflexión es lo que principalmente me ha permitido entender e interiorizar lo que realmente constituye un clima motivador: me has enseñado lo que es importante con tu propio ejemplo. Y todo aderezado con unas chispas de sentido del humor, empatía y poesía que han hecho que este proceso haya sido mágico. Y sin embargo, mis mayores agradecimientos van hacia ti como persona: por escucharme de forma tan sincera y por los consejos tan certeros. Por preocuparte y ocuparte de mi bienestar. Por tu humildad, tu honestidad y tu generosidad infinitas. Porque contigo aprendí que los números tienen alma, y que "partido a partido" las cosas salen mejor.

Decía Nelson Mandela "La educación es el arma más poderosa que puedes usar para cambiar el mundo". Y si yo estoy aquí hoy, es porque hubo maestros que me inspiraron para intentarlo. Don Antonio, porque fuiste mi profesor del "Club de los poetas muertos particular". Arancha Soria, por iluminarme; conocerte cambió mi rumbo y mi horizonte, o, mejor dicho, me ayudó a encontrarlo. Paola Costa, Melina Solari y Martha Santivañez, porque además de ser un sustento, aquellas conversaciones de la Michelle Foucault regaron la semilla de la inquietud en mí. A Elena Martín, por incrustarme tu pasión y compromiso por la educación y no cesar en el tesón de hacernos más competentes. A Isabel Cuevas, mi tutora durante el máster, por guiarme en la incertidumbre. To Darlene Hall, for allowing me to gain access so generously to

your great knowledge and excellent work. A Alejandro Adler, porque tu trabajo en sí mismo es una enorme inspiración. To Megan Gardinier for your support, and for the big challenge and gift in which your classes were turned into.

En lo profesional (y en lo personal), no sería lo que soy si no fuera porque alguien en una entrevista decidió creer en “una feliciana” que tenía mucha ilusión y muy poca experiencia. Victoria Hernando, me inculcaste esa confianza en las venas, y te convertiste en mi brújula gracias al cariño y conocimiento que con tanta suerte me guiaron - y me facilitaste hasta el infinito el iniciarme en la locura del doctorado -. Gracias a Gloria Burón y a Irene Muñoz por ayudarme a hacer malabares y por enriquecer mi perspectiva. Thank you so much, Marc de Rosnay, for having given me the opportunity to work in one of the most amazing institutions, and for constantly challenging my learning.

Gracias a mis compañeros del Máster de Psicología de la Educación (y su Anexo, Palentino, Museo del Traje, Sandos... et al., 2011), que enriquecisteis mi visión y multiplicasteis mi aprendizaje. A Pablo Muriel, Almudena Ladero e Irene Ruiz por esos debates “que dan la vida”, vuestro cariño perpetuo y vuestra mirada certera. A Laura González, gracias por todo el apoyo e interés constante. A Yolanda Huertas por crear un “traje” cuya confianza perdura. A Mariana Solari, gracias por la ayuda y el gran soporte que siempre me has prestado. A Irene Ruiz (lo sé, pero es que tu presencia en mis alegrías es elevada al cuadrado), gracias por hacerme sentir que siempre puedo contar contigo.

A Mayte Ortiz. Por regalarme una gran dosis de tu mezcla explosiva: conocimiento, pasión, dulzura y comprensión. Por abrazar mis ilusiones - y de vez en cuando, traerlas a tierra -. Porque tú sí que sabes-hacer-crecer, eternamente agradecida.

A mi punto de partida y mi destino. Por el descanso, las celebraciones, las risas, y hasta por la nostalgia. Por esos “Merce, el último empujón, que ya te estamos esperando”. Sois la esencia a la que siempre volver. Rebeca, Lidia, Ana, María, Elia, Elena, Óscar, Juan José. Muy especialmente a Berta - por estar siempre tan presente y por tu amistad sin fronteras - y a María - gracias por hacer que siempre salga el sol -. A Quetzalcoatl, por presenciarse tan pronto con sus alas de dulces ilusiones; por regalarme a los Forta, a Ángel, a Ricardo, y a Aremy. Porque ya nunca volvimos a ser los mismos y porque ahí seguimos.

À Isabelle: la vie toujours te frappe avec des cadeaux inespérés quand tu t'y attends le moins et lorsque tu en as le plus besoin. Et tu es l'un de ces. Merci pour ces magiques conversations... pour être si espagnole et pour me faire sentir si française. À toi et toute la famille du lycée Saint Jacques de Compostelle, parce qu'avec vous j'ai appris autant and je me suis vraiment inspirée.

To my Australia's family. Don & Ivi was my home, and home will be wherever you'll be. To our wonderful Al, you gave us so much, and your life remains as the best of the examples. Because you will always, always be with us. To Eli, thanks for your wonderful wisdom of life and for taking care of me with so much love. To Rob, your constant support and affection are still felt at so many km away.

To Tracey... for you there it goes my THANK YOU with Capital Letters. You were my guardian angel, my friend, my colleague. Because you are more than all this to me... and because at my home you are very much loved, and you know there is an important "why". Because your kindness was the cause of my strength.

A mi familia Miamera, y en especial a sus mujeres: porque aquella despedida en el Versalles me hizo sentir tan querida, que a partir de ahí todo fue rodado "y sin necesidad de buscar el norte". A Lorena porque tu ayuda y tu gran alma expedicionaria fue la causante de todo lo bueno que se desencadenó después. A Adelina por hacerlo todo tan especial, por tu creatividad y tu sensibilidad. A Cristina, por tanta generosidad, por tanto espacio y tanto tiempo cuando más lo necesitaba. A ti, Camile, inabarcablemente gracias: apareciste en el momento indicado y en el lugar preciso; la proporción de lo que me entregaste ya fue fascinante.

A Lourdes, por ser perenne en el apoyo y caduca a la hora de reclamar. Por estar siempre, siempre ahí. Y por tanto, tanto cariño. Dani, gracias por hacerme sentir siempre tan cerca incluso cuando estábamos más lejos. A mi casa Abades: Fran, Nacho y Marigel. Y a mi Julieta, a quien algún día contaré todo esto en forma de cuento.

A mi "quod Salmantica non dat...". Gabri, porque un gran abrazo lo cura todo. Por sufrir por mí, y por alegrarte tanto por mí. Por cuidarme y hasta por regañarme. Amaia, por tu prisma rebelde y comprometido. Por esas sesiones de coescucha, eternamente agradecida. Ana, por tu incondicionalidad, por tu mirada tierna, y tu "preocupación" constante. Por saber estar siempre pendiente. Betty, por ese dar con mayúsculas, por estar siempre cerca, apoyando y cuidando.

A Anais. Por ser mi báculo. Por estar ahí tanto. Y por estar como estás. Por tu manera de hacer bien siempre tan sigilosa. Por saber ver en mí luces donde podrían verse sombras. Por dejarme ser, por ayudarme a ser. Porque, como tú misma dices, el saber que existes me da paz.

A mis Villasanas y a mis Terradillos: por quererme bien.

A mis padres, porque desde pequeña me hicisteis crecer en un entorno seguro y querido. Porque sois mi raíz, y porque a pesar de lo difícil que pudo

ser para vosotros, sois mis alas. Por incitarme a aprender, a ver, a volar. Gracias por ser los principales promotores de mis sueños. Porque el significado de infinito se materializa en vuestra generosidad. Imposible que esté de vuelta. Porque no teníais porque dar tanto, y lo disteis todo. Y lo dais siempre.

A mi padre, porque eres la máxima expresión del verbo “dar”. Por esa visión tan empática y esperanzadora que tienes de las personas, y esa enorme capacidad de entender y no juzgar, que tan segura me ha permitido crecer. Por tus valores, los que tanto admiro. Gracias por cada palabra, cada consejo, que me guiaron. Por ser mi raíz.

A mi madre, Por ser esas las manos que amasan el barro con ilusión, y que me moldearon con cariño. Por ese olor tan especial y mágico que tienen tus abrazos. Porque tu rebeldía, tu creatividad, tu ojo avizor, y tu cariño crean un poso en mí que me ayuda siempre a crecer. Por ser mis alas.

A los dos, por traerme el presente más especial: María. Tienes el don de bañar de extraordinario lo común. De hacer de cada momento y de cada persona, algo especial. Gracias por verme como me ves, con esa mirada limpia que baña la realidad de un halo de alegría y bondad. Por estar siempre ahí, por ver solución en la dificultad, y por ayudarme a curar heridas a risotadas. Porque le pones ilusión a la vida como nadie, y haces que nos impregne a los de tu alrededor.

A Abraham. Porque este camino sin tu mano hubiera sido inmensamente más duro, e infinitamente menos bonito; tienes el don de llenar mis depósitos de esperanza e impulsarme hacia la mejor versión de mí. Porque es imposible representar en palabras, ecos o hechos lo que me ayudas y lo que me aportas

G R A C I A S

Y sobre todo, por el regalo de tu alma noble, honesta y generosa. Por ser mi estrella polar particular en días despejados, y mi faro cuando la mar está revuelta.

Resumen

Antecedentes y objetivos

La presente tesis surge de un interés concreto: el hecho de que haya gente que se hunde ante las dificultades, se atasca en el problema y el estrés generado le afecta profundamente. Sin embargo, el aspecto positivo es que no todo el mundo se hunde: existe gente que resiste a las adversidades, y que incluso sale reforzada de las mismas. Son resilientes. La resiliencia es una característica positiva que contribuye al bienestar. De este modo, conocer los factores personales y contextuales que favorecen la resiliencia es fundamental para poder ayudar y guiar a una persona a hacer frente a la dificultad.

Con el objetivo general de contribuir a hallar una respuesta a la cuestión de los factores que condicionan la resiliencia, se realizaron seis estudios. Se centraron tanto en el desarrollo de instrumentos de evaluación como en contrastar modelos con el fin de arrojar luz sobre las siguientes cuestiones:

1) Saber en qué medida la resiliencia se generaliza a través de las situaciones adversas o varía en función de su naturaleza. 2) Determinar el grado en que la resiliencia puede predecirse a partir de la preferencia de uso de estrategias y estilos de afrontamiento, 3) a partir de factores de personalidad, o 4) a partir ambos tipos de características psicológicas, determinando su peso relativo como predictores. 5) Determinar la validez transcultural del Clima Motivacional de Clase, ya que el siguiente estudio iba a llevarse a cabo en Francia; y finalmente, 6) examinar si el Clima Motivacional de Clase (CMC) - un factor contextual - podría contribuir a favorecer el desarrollo de la resiliencia.

Método

El primer estudio de esta tesis pretendía hallar pruebas sobre la validez transcultural del “Cuestionario de Resiliencia Subjetiva” (SRQ). Durante la validación del SRQ se

realizaron análisis sobre en la medida en que se puede generalizar la estructura factorial, así como de las relaciones entre las puntuaciones de resiliencia y los diferentes tipos de factores protectores y de vulnerabilidad - expectativas de éxito y clima motivacional de clase orientado hacia el aprendizaje (CMC). Se compararon los datos de una muestra francesa de 750 alumnos de Educación Secundaria, Bachillerato y Formación Profesional con los datos obtenidos con la muestra española inicial, mediante la realización de análisis factoriales confirmatorios, análisis de fiabilidad, y de correlación y regresión.

Con el fin de determinar la importancia de las estrategias de afrontamiento y de los factores de personalidad sobre la resiliencia, en la segunda parte de la tesis cada grupo de predictores se estudió, primero, de manera separada y posteriormente de manera combinada. Con este objetivo, se llevaron a cabo los estudios 2, 3 y 4. Una muestra de 1083 alumnos de Educación Secundaria y Bachillerato, de centros privados y públicos tanto de zonas rurales como urbanas, participaron en estos estudios.

El Estudio 2 tenía dos objetivos. En primer lugar, desarrollar el Cuestionario de Afrontamiento Persona-Situación para Adolescentes (PSCQA), de tal forma que fuera posible 1) examinar si el uso de estrategias y estilos de afrontamiento se generaliza a través de situaciones adversas, o si varía según la naturaleza de la situación, y 2) analizar el modo en que las estrategias de afrontamiento definen los estilos de afrontamiento en la adolescencia. Se desarrolló una extensión del modelo bifactorial con este fin. En segundo lugar, se pretendía analizar las relaciones entre los estilos de afrontamiento (CS) y la resiliencia (Rs) utilizando datos del PSCQA como predictores y del SRQ como criterio. Los datos se analizaron mediante técnicas confirmatorias (CFA & PALV).

El Estudio 3 se basó en la hipótesis de que los factores de personalidad bajo el paraguas del concepto de la “resiliency” subyacen a la resiliencia. Con el fin de

examinar esta hipótesis, se utilizaron las escalas de Prince-Embury para adolescentes con la población española, para la cual se adaptaron las escalas y cuya validez se evaluó. Posteriormente, se analizaron las relaciones entre las variables de la resiliency Sentido de Dominio, Sentido de Relación y Reactividad Emocional, por un lado, y la resiliencia, evaluada mediante el Cuestionario de Resiliencia Subjetiva. Además, también se estudió el papel que ejerce la integración social en esta relación. Los datos se analizaron mediante técnicas confirmatorias (CFA, PALV).

El Estudio 4 se llevó a cabo con el fin de examinar el ajuste relativo y la validez predictiva de dos modelos predictivos sobre las relaciones hipotéticas entre dos tipos de predictores - estilos de afrontamiento y factores de personalidad (resiliency) - y la resiliencia como criterio. Con el objetivo de determinar en qué medida la resiliencia es predicha por las variables del modelo, se realizaron cuatro análisis de vías con variables latentes (PALV): dos dirigidos a evaluar cada modelo, y otros dos para validación cruzada.

La última parte de la tesis examina el papel de algunos factores de clase, relacionados con el/la profesor/a, que puedan afectar a la resiliencia. Con este propósito, se llevaron a cabo los Estudios 5 y 6. El objetivo del Estudio 5 era obtener evidencias sobre la validez transcultural del “Cuestionario de Clima Motivacional de Clase” (CMCQ). Con este fin, se comparó una muestra de 749 alumnos franceses con la muestra original española. Durante el proceso de validación del CMCQ, se realizaron análisis factoriales confirmatorios, análisis de fiabilidad, y análisis de correlación y de regresión.

Finalmente, en el Estudio 6, se efectuó un reanálisis de los datos del Estudio 5 con la ayuda de modelos de ecuaciones estructurales (PALV) para determinar hasta qué grado se percibe que la resiliencia académica está influida por el clima motivacional de clase y por las expectativas de los estudiantes.

Resultados

La primera parte mostró que los resultados franceses eran similares a los españoles, concluyendo la importancia de considerar las variaciones de la resiliencia en función de los tipos de adversidad experimentados. Esta parte también muestra las diferencias existentes entre los alumnos franceses y españoles en relación al grado en el que reconocen que actúan de una manera resiliente frente a algunas situaciones del SRQ.

Los resultados del Estudio 2 revelaron que los estilos de afrontamiento predicen la resiliencia en un alto grado. También expusieron que la diferente sensibilidad hacia cada tipo de situación adversa condiciona la activación o inhibición en diferente grado de las estrategias de afrontamiento.

El Estudio 3 reveló, tal y como se esperaba, que en la adolescencia, la resiliencia subjetiva - percibida - es predicha por el Sentido de Dominio y la Reactividad Emocional, pero no por el Sentido de Relación una vez se descarta su relación con el Sentido de Dominio. Este hecho va en contra las expectativas derivadas de la teoría de Prince-Embury: la Resiliencia y el Sentido de Relación no están relacionados, ni directamente, ni por medio de la integración social, aunque el bienestar podría verse favorecido por el hecho de estar relacionado/a o socialmente integrado/a.

Las comparaciones de modelos realizadas en el Estudio 4 indicaron que la mejora percibida en la resiliencia depende principalmente de las estrategias y estilos de afrontamiento según lo esperado, y que los factores de personalidad pueden tener un efecto mediador sobre el efecto de los estilos de afrontamiento sobre la resiliencia.

En la tercera parte, los resultados del Estudio 5 mostraron que el CMCQ es un instrumento fiable y válido para medir el clima motivacional tanto en Francia como en España, es decir, que el clima motivacional de clase es percibido de manera similar tanto por los alumnos franceses como por los españoles. El uso de este cuestionario permite identificar qué pautas de aprendizaje podrían y deberían mejorarse, y predice en

gran medida el grado de satisfacción con el/la profesor/a. Asimismo, este estudio reveló la existencia de algunas diferencias entre los alumnos españoles y franceses en relación al valor motivacional atribuido a las pautas de enseñanza, diferencias cuyas implicaciones son examinadas.

Finalmente, el Estudio 6, en el cual se utilizaron las puntuaciones del CMCQ como predictores, mostraron que el cambio percibido en la resiliencia académica depende principalmente del clima motivacional generado por el/la profesor/a más que de las expectativas del/de la alumno/a o de su resiliencia inicial.

Conclusiones

Como conclusión, existen principalmente tres implicaciones prácticas derivadas de los resultados de esta tesis, que podrían guiar a los educadores sobre cómo promover la resiliencia de los adolescentes. En primer lugar, debe enfatizarse la importancia de evaluar la resiliencia en el contexto de tipos específicos de situaciones adversas con el fin de proporcionar la ayuda adecuada. En segundo lugar, es importante proporcionar ayuda a los estudiantes no sólo para desarrollar y utilizar las estrategias que configuran el afrontamiento enfocado a la resolución del problema, sino también para tomar conciencia de los efectos negativos relacionados con el uso de estrategias que configuran el estilo de afrontamiento centrado en la emoción. Además de la implicación general sobre qué enseñar, los resultados de los diferentes estudios también tienen implicaciones sobre la enseñanza de estrategias específicas de afrontamiento que pueden ayudar a los estudiantes a ser resilientes, así como la secuenciación de las estrategias utilizadas. En tercer lugar, la creación de un clima motivacional de clase orientado hacia el aprendizaje sería la forma en la que el profesor puede ayudar a los estudiantes a ser resilientes.

Abstract

Background and objectives

The present thesis arises from a particular concern: the fact that there are people who sink in front of difficulties, who stuck to the problem, and to whom the stress generated by it affects intensely. However, the positive aspect to take into account is that not everyone gets down: there are people who rise in front of adversities, and that even become strengthened by them. They are resilient. Resilience is a positive characteristic that contributes to well-being. So, knowing personal and contextual factors that favor resilience becomes essential in order to be able to help and guide a person to cope with adversity.

With the general objective of contributing to find the answer to the question of factors conditioning resilience, six studies were carried out. They focused both on the development of assessment tools, and on model comparison with the aim of shedding light on the following issues:

- 1) To know the degree in which resilience generalizes across adverse situations or vary depending on their nature.
- 2) To determine the degree in which resilience can be predicted from the preferred use of coping strategies and styles,
- 3) from personality factors, or
- 4) from both types of psychological characteristics, determining its relative weight as predictors.
- 5) To determine the cross-cultural validity of the Classroom Motivational Climate, as the next study was going to be carried out in France; and finally,
- 6) to test whether Classroom Motivational Climate (CMC) –a contextual factor– could contribute to favor the development of resilience.

Method

The first study of this dissertation aimed to find evidence on the cross-cultural validity of the “Subjective Resilience Questionnaire” (SRQ). In the validation of SRQ were carried out analyses of the generalizability of factor structure, and of relationships

between resilience scores and different kinds of protective as well as vulnerability factors - success expectancies and learning-oriented classroom motivational climate (CMC) . Data from a French sample of 750 students from Secondary Education, High School and Vocational Education were compared with data in the Spanish initial sample, by carrying out confirmatory factor analyses, reliability analysis, and correlation and regression analyses.

In order to determine the importance of coping strategies and personality factors on resilience, in the second part of the thesis each group of predictors was first studied separately and then combined. With this purpose, studies 2, 3 and 4 were carried out. A sample of 1083 Secondary and High School students, from private and public schools of both rural and urban areas, participated in these studies.

The objective of Study 2 was twofold. First, to develop the Person-Situation Coping Questionnaire for Adolescents (PSCQA), in such a way that it was possible 1) to test whether the use of coping strategies and styles generalize across adverse situations or varies depending on the nature of the situation, and 2) to analyze the way in which coping strategies define coping styles in adolescence. An extension of a bifactor model was developed for this purpose. Second, to analyze the relationships between coping styles (CS) and resilience (Rs) using data from the PSCQA as predictors and from SRQ as criterion. Data were analyzed through confirmatory techniques (CFA & PALV).

Study 3 was based on the hypothesis that personality factors under the umbrella of the “resiliency” concept underlie resilience. In order to test this hypothesis, Prince-Embury scales (PES) for teenagers were used with the Spanish population, for which they were adapted and its structural validity was tested. Then, the relationships between the resiliency variables Sense of Mastery, Sense of Relatedness and Emotional Reactivity, on one side, and resilience, evaluated by means of the Subjective Resilience Questionnaire (SRQ), were analyzed. Besides, the role that social integration exerts

within this relationship was also studied. Data were analyzed using confirmatory techniques (CFA, PALV).

Study 4 was conducted in order to examine the relative fit and the predictive validity of two predictive models on the hypothetical relations between two types of predictors - coping styles and resiliency personality factors- and resilience as criterion. In order to determine to what extent resilience is predicted by the variables of the model, four path analyses with latent variables (PALV) were carried out: two aimed at testing each model, and other two for cross-validation.

The last part of the thesis examines the role of some classroom factors related to the teacher which might affect resilience. To this purpose, Studies 5 and 6 were conducted. The aim of Study 5 was to obtain evidence of the cross-cultural validity of the “Classroom Motivational Climate Questionnaire” (CMCQ). With this goal, a sample of 749 French students was compared to the original Spanish one. In the CMCQ’s validation process, confirmatory factor analyses, reliability and correlation and regression analyses were carried out.

Finally, in Study 6, a reanalysis of data coming from Study 5 was realized with the aid of structural equation models (PALV) to determine to what extent change in academic resilience is perceived as influenced by classroom motivational climate and students’ expectations.

Results

The first part showed that French results were similar to the Spanish ones, concluding the importance of considering resilience’s variations as a function of the kinds of adversity experienced. This part also displays differences between French and Spanish students regarding the degree they recognize to act in a resilient way in front of some situations of the SRQ.

Results of Study 2 showed that coping styles predict resilience in a high degree. They

also showed that the different sensibility to each type of adverse situation conditions the activation or inhibition of coping strategies in different degrees.

Study 3 revealed, as expected, that in adolescence subjective –perceived- resilience is predicted by Sense of Mastery and Emotional Reactivity, but not by Sense of Relatedness once its relation with Sense of Mastery is deducted. This fact runs against the expectations derived from Prince-Embury's theory: Resilience and Sense of Relatedness are not related, either directly, or through social integration, though well-being could be favored by being related and socially integrated.

The model comparisons realized in Study 4 indicated that perceived improvement in resilience depends mainly on coping strategies and styles as expected, and that personality factors can have a mediating role on the effect of coping styles on resilience.

In part three, results of Study 5 showed that CMCQ is a reliable and valid tool for measuring motivational climate both in France and in Spain, that is, classroom motivational climate is seen in a similar way by French and Spanish students. The use of this questionnaire allows identifying which learning patterns could and should be improved, and predicts to a considerable extent the degree of satisfaction with the teacher. Additionally, the study exposed some differences between Spanish and French students in regards to the motivational value attributed to teaching patterns, differences whose implications are discussed.

Finally, Study 6, in which CMCQ scores were use as predictors, showed that perceived change in academic resilience depends mainly on the motivational climate generated by the teacher rather than on student's expectations or on his/her initial resilience.

Conclusions

As a conclusion, there are mainly three practical implications derived from the results of this thesis, which could guide educators on how to promote adolescents resilience in adolescents. First, it must be emphasized the importance of assessing resilience within the context of specific kinds of adverse situations with the aim of providing appropriate support. Secondly, it becomes relevant to supply help to students not only to develop and use the strategies configuring problem-solving focused coping, but also to be aware of the negative effects related to the use of strategies that shape the emotion-centered coping style. In addition to the general implication about what to teach, results of the different studies also have implications concerning the teaching of specific coping strategies that can help students to be resilient, as well as the sequencing of used strategies. Thirdly, creating a classroom motivational climate learning oriented would be the way in which the teacher can help students to be resilient.

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CHAPTER I

Introducción / Introduction

Introducción

Todo el mundo, en algún momento de su vida, tendrá que lidiar con alguna situación adversa. Sin embargo, es un hecho que no todo el mundo se enfrenta a ellas de la misma manera. Hay personas que se desmoronan ante las dificultades, se deprimen, sienten ansiedad o se estancan en el problema, mientras que otros no sólo son capaces de hacerles frente, sino incluso de salir fortalecidos de estas situaciones.

Vivimos en una época de cambios incesantes a nivel social, educativo y económico, en la que cada vez más niños y familias experimentan dificultades emocionales, haciendo necesario tener la fortaleza interna que permita sobreponerse. La buena noticia es que, si bien nadie es invulnerable, no estamos indefensos. Podemos desarrollar una capacidad que nos permite hacer frente a las dificultades y crecer gracias a ella: la *resiliencia*.

La resiliencia está continuamente presente y alrededor nuestro. Lo vemos en terribles situaciones provocadas por la guerra, por desastres naturales o casos de explotación; niños que pierden a sus padres y familiares, cuyo entorno se torna inseguro, y que en muchos casos, tienen que abandonar su lugar de origen con la esperanza de tener un futuro mejor. Lo vemos en situaciones de pobreza en lugares no tan lejanos, niños cuyas familias no tienen recursos económicos suficientes como para asegurarles una alimentación de calidad y en los que la exclusión social provoca que tengan que luchar más para poder llegar al mismo lugar. También está presente de manera cotidiana y recurrente en niños y adolescentes que tienen que enfrentarse a situaciones de rechazo o exclusión por parte de sus compañeros, a situaciones de incompreensión por parte de sus profesores o familiares, o a adversidades a lo largo de sus estudios escolares.

En estos casos, siempre hay personas que son capaces de gestionar los problemas de forma eficaz y salir airosos, e incluso de aprender de dichas experiencias para adaptarse mejor a las dificultades del futuro. Personas resilientes, que ante las adversidades no

sólo no se desaniman, sino que incluso salen fortalecidas, hecho que facilita su ajuste y desarrollo personal. Esta característica influye en el equilibrio personal y social, razón que ha despertado el interés por comprender su naturaleza y las variables de las que depende, ya que este conocimiento posibilitaría saber en qué dirección actuar y cómo hacerlo durante el proceso educativo para facilitar su desarrollo. Existe una enorme variabilidad en la forma en la que los niños y adolescentes responden a la adversidad, por lo que necesitamos entender los procesos que conducen a resultados positivos y a la recuperación, con el fin de poder ayudar también a otros niños que no se recuperan.

Preguntas

Esta tesis, que se centra en el estudio de la resiliencia en la adolescencia, comienza con un conjunto de preguntas a las que en la medida de lo posible se tratará de dar una respuesta en este trabajo: ¿por qué muchos adolescentes se hunden en la adversidad, mientras que otros se hacen más fuertes? ¿Qué favorece o protege a estos últimos para que reaccionen tan bien? ¿Cómo podemos ayudar a padres y profesores para que faciliten que a los jóvenes y adolescentes les vaya bien en la vida y tengan éxito académico?

Con el fin de ofrecer luz a estas cuestiones, se torna indispensable responder a una serie de preguntas previas. En primer lugar, las relacionadas con las diferentes perspectivas que tienen que ver con la propia naturaleza de la resiliencia: ¿qué es exactamente la resiliencia y cómo podemos medirla? Definirla, delimitarla y medirla nos permitirá estudiar más profundamente quién es resiliente y en qué grado, y poder consecuentemente indagar qué es lo que marca la diferencia. En segundo lugar, necesitamos conocer qué hace, tanto a nivel individual como contextual (personal, escolar, familiar, cultural, etc.), que un/a adolescente sea resiliente, esto es, necesitamos identificar cuáles son los factores de protección que favorecen la resiliencia. En tercer lugar, necesitamos conocer los procesos que subyacen a la resiliencia buscando

respuesta a la cuestión: ¿cómo funcionan exactamente dichos factores de protección? Una vez que conozcamos cuáles son dichos factores y procesos, podremos intervenir y favorecer la promoción de la resiliencia.

Para intentar responder a las cuestiones mencionadas se han realizado los seis estudios que configuran esta tesis. Cuatro de ellos están ya publicados y uno aceptado para publicación y el último en proceso de revisión. Antes, sin embargo, de proceder a su exposición creemos necesario situar el contexto teórico general desde el que se han afrontado los distintos estudios.

Marco teórico

La adolescencia constituye un momento en el ciclo vital esencialmente complejo, en el cual el joven se encuentra ante numerosos obstáculos y desafíos. En esta etapa existen procesos clave en los que la resiliencia de cada individuo marcará el modo en el que se sobreponga a dichos desafíos. La resiliencia ayuda a las personas a manejar el estrés y la adversidad, a superar las desventajas de la niñez, a sobreponerse a las situaciones adversas y a alcanzar nuevas oportunidades (Reivich & Shatté, 2002).

Cuando pensamos en un/a joven que ha demostrado ser resiliente, tenemos en mente dos componentes (Luthar, 2006): una adaptación positiva y una situación adversa (un riesgo, un problema). Si a una persona le va bien sin haberse enfrentado a una adversidad, probablemente sea una persona feliz, pero no una persona resiliente.

El término “resiliencia” hace referencia a la adaptación positiva o recuperación a pesar de experiencias de adversidad significativa, es decir, a pesar de las situaciones de la vida que generalmente producen desequilibrio, y esta parece una afirmación compartida por la mayoría de los investigadores en resiliencia. Sin embargo, las diversas perspectivas conceptuales y las estrategias metodológicas usadas en investigación hacen difícil progresar en la comprensión de la naturaleza, los determinantes y los efectos de la resiliencia, salvo que se logren superar algunos

obstáculos (Luthar & Brown, 2007; Masten, 2007), que se desarrollarán a continuación.

Partimos de que la resiliencia - como fenómeno - necesita ser explicada (Leipold & Greve, 2009). Así, para determinar de modo preciso qué tipos de factores contribuyen a la resiliencia, o si la resiliencia es diferente o no de las características referidas por otros conceptos de personalidad como “competencia”, “resiliencia del yo” (ego-resilience) y “resistencia”, el fenómeno en sí necesita ser medido en cierta manera. Esto es, es necesario evaluar el grado de adaptación positiva frente a las condiciones que implican gran riesgo de desarrollar inadaptación para poder validar los modelos que se propongan para explicar la resiliencia.

Con el fin de determinar cómo medir la resiliencia, se realizó una revisión sistemática de los trabajos existentes en lo que se refiere a la medición de la resiliencia. Existen principalmente dos trabajos previos que facilitan indagar qué es lo que se conoce hasta la fecha en relación a la evaluación de la resiliencia. Primero, un examen sistemático de los problemas metodológicos y conceptuales que conlleva medir la resiliencia, llevado a cabo en el marco del proyecto "Reaching in... Reaching out" (Vine, Hall, & Gardner, 2010). Y, segundo, una revisión metodológica de las escalas de medición de la resiliencia llevada a cabo por Windle, Bennet y Noyes (2011).

En el proyecto "Reaching in... Reaching out" (Vine et al., 2010) se examinaron un total de 38 instrumentos de evaluación destinados a medir la resiliencia y las características relacionadas, así como factores de riesgo y de protección. Sin embargo, todas las medidas, incluso la incluida bajo el título “resiliencia”, estaban centradas en factores que favorecen la resiliencia, pero no miden el fenómeno en sí.

Windle et al. (2011), por su parte, examinaron la calidad de 19 medidas de resiliencia desde un punto de vista conceptual y metodológico. Entre los criterios de valoración utilizados se incluían la consideración de la validez de contenido, la consistencia interna, la validez predictiva, la validez de constructo, la replicabilidad, la respuesta a la

intervención, el control de los efectos suelo y techo, y la interpretabilidad. Muchas de las escalas habían sido también examinadas en el marco del proyecto "Reaching in... Reaching out" (Vine et al., 2010). Los resultados pusieron de manifiesto que la adecuación conceptual y teórica de muchas escalas era cuestionable, que la mayoría de las escalas se encontraban en etapas iniciales de desarrollo, y que solo tres (todas para adultos) podrían ser aceptables sobre la base de sus propiedades psicométricas. Estaba claro que no había medidas adecuadas de resiliencia para adolescentes, pero la resiliencia necesita ser medida, ya que sin medir el fenómeno resulta difícil diferenciar en campos empíricos las similitudes y diferencias con conceptos de personalidad. Era necesario, pues, afrontar este problema, pero ¿cómo hacerlo? Ante todo, es precisa una clarificación conceptual del concepto "resiliencia" y de lo que implica la resiliencia "subjetiva".

Resiliencia

Por lo que se refiere, en primer lugar, al concepto de "resiliencia", en esta tesis, coincidimos en la acepción que da Masten (2014) a la resiliencia, entendiéndola como la "capacidad de un sistema para adaptarse con éxito a perturbaciones que constituyen una amenaza a la estabilidad, vida o desarrollo de ese sistema", y más específicamente, como se ha indicado al comienzo, con el análisis de Luthar (2006) que señala la necesidad de considerar dos componentes: una situación adversa (un riesgo, un problema) y una adaptación positiva a la misma. En consecuencia, para ahondar en el trabajo científico, es necesario delimitar, primero, específicamente cuál es el criterio de adversidad que vamos a seguir, y por otra parte, de qué hablamos cuando hacemos referencia a la adaptación.

En la adversidad existen matices muy subjetivos. Es evidente el riesgo en casos de guerra, malnutrición, pérdida de los padres, etc. Sin embargo, cada adolescente ha de lidiar con situaciones que si bien para unos podrían suponer un verdadero obstáculo,

para otros no. Son precisamente esas dificultades cotidianas con un riesgo inicialmente menor, pero que pueden suponer problema a la hora de sobreponerse para algunos jóvenes, de las que nos ocuparemos en este trabajo: adversidades cotidianas a las que se puede enfrentar un/a adolescente en el día a día que tienen que ver con los padres, los compañeros o los profesores.

Cuando hacemos referencia a la adaptación, es necesario recalcar que nos referiremos a la percepción subjetiva del adolescente de haber superado la dificultad con éxito, que esto no le suponga un problema y que le permita continuar con su vida de una forma positiva. En esta tesis, no nos centraremos en el componente cultural de adaptación, en lo que se considera socialmente resiliente, sino que nos enfocaremos en la dimensión individual que subyace a recuperarse emocionalmente y salir adelante.

En cuanto al concepto de “resiliencia *subjetiva*” (o percibida, si se prefiere), su utilidad queda clara si se considera el problema de la evaluación y medida de la resiliencia. Ésta puede basarse en comportamientos que muestren la adaptación positiva (medida objetiva) o en la percepción de la forma habitual de reaccionar ante situaciones adversas (medida subjetiva). Cada tipo de medida tiene sus propias ventajas y desventajas, pero las dos resultan necesarias, debido a que ambas muestran facetas diferentes de la resiliencia. No obstante, dado que las medidas objetivas requieren estudios longitudinales (Werner, 2005), en el marco del proyecto en el que se ha desarrollado esta tesis Alonso-Tapia, Nieto y Ruiz (2013) decidieron desarrollar un cuestionario de “resiliencia subjetiva” que cubriera el hueco detectado y llevar a cabo un análisis con el objetivo de comprobar su validez. Esta medida ha sido el punto de partida de nuestro trabajo por las razones que se exponen a continuación.

El concepto de resiliencia subjetiva, es decir, “la experiencia subjetiva de no rendirse ante la adversidad”, no había sido tratado hasta el desarrollo del cuestionario mencionado. Sin embargo, el tener en cuenta la experiencia subjetiva es importante por

tres razones: 1) porque esta experiencia es una “faceta” de la resiliencia que puede jugar un papel en ayudar a la gente a la hora de decidir cómo actuar ante la adversidad; 2) porque medir la resiliencia subjetiva podría ayudar a analizar las relaciones entre las características de la resiliencia y de la personalidad que guardan relación con la resiliencia subjetiva; 3) porque si se desarrollaran medidas sobre la resiliencia subjetiva, estas medidas simplificarían: a) el proceso de validación de modelos relacionados con los “factores” de protección y vulnerabilidad que subyacen a la resiliencia; b) el proceso de validación de modelos relacionados con los “procedimientos” que hacen posible la resiliencia (Leipold & Greve, 2009); y c) la evaluación de la eficacia de los programas de intervención que tienen como objetivo el favorecer la resiliencia. Como la resiliencia no es un fenómeno de “todo o nada” - la gente puede ser más o menos resiliente, o puede ser resiliente en un contexto pero no en otros (Luthar, 2006; Masten, 2007) -, la “resiliencia subjetiva” puede ser más sensible a intervenciones educativas a corto plazo (la gente puede sentirse segura y tener tendencia a actuar de manera resiliente antes de actuar de tal forma) que a las medidas objetivas basadas en índices de comportamiento observado que puedan manifestar resiliencia a medio o largo plazo. Por supuesto, las medidas de resiliencia subjetiva deberían ser comparadas a largo plazo con medidas más objetivas con el fin de comprobar su validez.

Factores que afectan a la resiliencia

El objetivo principal de esta tesis no era tanto el desarrollo de instrumentos para la evaluación de la resiliencia cuanto el estudio de las características personales y las contextuales ligadas a la acción del/de la profesor/a que pueden influir en la misma. Dado que en cada uno de los capítulos en que se recogen los artículos publicados se expone en profundidad la base teórica en que se apoyan, pasamos a exponer de modo sucinto los supuestos desde los que se ha abordado el estudio de unos y otros.

Factores protectores internos: 1) Estrategias de afrontamiento

Los factores de riesgo y de protección –personales o contextuales- son las características que aumentan (protector) o disminuyen (riesgo) la probabilidad de ser resiliente. Al buscar qué factores personales deberían ser tenidos en cuenta para explicar la resiliencia de un/a adolescente o la ausencia de la misma lo primero que se consideró fueron las estrategias y estilos de afrontamiento.

El creciente interés por el estudio de las estrategias de afrontamiento es producto de reconocer en ellas un particular modo de responder a las diferentes situaciones que generan estrés, como así también de entender su función positiva de mitigar los efectos nocivos de éste (Leibovich, Schmidt, & Marro, 2002). Si bien puedan existir procesos que subyazcan a la resiliencia, como puede ser el uso de estrategias de afrontamiento (Leipold & Greve, 2009), ningún estudio hasta la fecha había proporcionado evidencia de la relación existente entre los estilos y estrategias de afrontamiento y la resiliencia global.

¿Pero a qué nos referimos exactamente con el término "afrontamiento"? Lazarus y Folkman (1984) definieron el afrontamiento como “esos esfuerzos cognitivos y conductuales constantemente cambiantes que son desarrollados con el fin de gestionar las demandas específicas externas y/o internas que son evaluadas/definidas como aquellas que sobrepasan los recursos del individuo”.

La distinción entre las estrategias centradas en el problema y aquellas centradas en la emoción es la más seguida dentro del estudio del afrontamiento en psicología. El uso de unas u otras dependería en gran medida del control que se tenga sobre la situación. El afrontamiento centrado en el problema tiene como objetivo manejar el problema que está causando malestar. Comprende un conjunto más amplio de estrategias, en las cuales estarían incluidas, entre otras: “no pensar”, “pensamiento positivo”, “petición de ayuda”, “buscar la solución” y “rumiación”. En cambio, el afrontamiento basado en

emociones implica métodos dirigidos a regular la respuesta emocional ante el problema, incluyendo habitualmente estrategias como “expresión emocional”, “aislamiento” y “autoculpabilización” entre otros.

El uso de estrategias de afrontamiento adecuadas al afrontar la adversidad podría explicar el grado de resiliencia que se manifiesta, y a su vez sería importante conocer el peso relativo (la importancia de cada una de las estrategias en particular) en la resiliencia, ya que, dependiendo de la respuesta a esta pregunta, las implicaciones para la evaluación y la intervención serían diferentes. Por este motivo, uno de los objetivos de esta tesis ha sido el análisis de la relación entre las estrategias de afrontamiento y la resiliencia en la adolescencia, objetivo para el que ha sido necesario previamente fundamentar y desarrollar un cuestionario de estrategias de afrontamiento, como se expone más adelante.

Factores de protección internos: 2) Características de personalidad

Además de las estrategias de afrontamiento, al considerar qué factores podían contribuir a la resiliencia o a la ausencia de la misma ha sido necesario considerar ciertos factores de personalidad. La razón es que las diferencias manifiestas en resiliencia subjetiva pueden depender tanto de las estrategias de actuación concretas que se ponen en marcha durante el proceso de afrontamiento de los distintos tipos de adversidades, como de factores de personalidad -pautas cognitivas, emocionales y comportamentales de interacción entre la persona y su entorno- relativamente estables, aunque no inmodificables, consolidadas a lo largo del desarrollo. Olsson, Bond, Burns, Vella-Brodrick y Sawyer (2003) habían revisado y resumido los factores de personalidad más frecuentemente mencionados en relación con la resiliencia –tolerancia de estados afectivos negativos, autoeficacia, autoestima, sentido del yo, locus de control interno, y sentido del humor entre otros. Sin embargo, no había ningún modelo que integrase estos factores ni un instrumento que permitiese la evaluación y estudio

conjunto de los mismos. Por fortuna, Prince-Embury (2007) y el conjunto de trabajos recientemente publicados relacionados con sus propios estudios representan una buena línea de investigación sobre factores de personalidad desarrollada con niños y adolescentes. En estos trabajos se parte de un modelo de “*resiliency*”, término que hace referencia a los factores de personalidad que afectan a la resiliencia. Este modelo incluye tres bloques de factores.

En primer lugar, “sentido de dominio”, entendido como la expectativa de ser capaz de hacer o conseguir algo, expectativa basada en la experiencia de tener recursos suficientes o en la percepción de tener esa capacidad. Sus indicadores son: optimismo, autoeficacia, adaptabilidad.

En segundo lugar, “sentido de relación”, basado en la ayuda o apoyos externos que proporciona la relación con los demás. Integra cuatro factores o características más específicas: confianza, apoyo, comodidad con otros, tolerancia.

En tercer lugar, “reactividad emocional”. Se relacionaría negativamente con la resiliencia, dado que implica dificultad para controlar los propios impulsos y para concentrar la atención en las acciones a realizar para actuar de forma adaptativa y eficaz. Sintetiza el efecto combinado de tres características personales: sensibilidad, dificultad de recuperación y bloqueo cognitivo o comportamental.

Dada la ausencia de estudios que relacionasen los factores de personalidad (*resiliency*) con la resiliencia en la adolescencia en general y en España en particular, en esta tesis se decidió estudiar la relación mencionada, para lo que fue necesario previamente adaptar al español el instrumento creado por Prince-Embury.

Ocurre, además, que es posible que los estilos de afrontamiento y los factores de personalidad que pueden subyacer a la resiliencia estén relacionados. Ante esta posibilidad cabe preguntarse cómo se relacionan y cuál es el peso de cada uno en la resiliencia. Dado que no había modelo alguno que abordase este problema, se consideró

que, en cuanto pautas de acción más específicas, el efecto de las estrategias de afrontamiento podría estar mediado -o moderado- por las disposiciones de personalidad, idea sobre la que desarrollamos un modelo predictivo de relaciones hipotéticas entre afrontamiento, factores de personalidad (resiliency) y resiliencia que ha sido objeto de otro de los estudios publicados.

Factores de protección contextuales: cultura y clima motivacional

A lo largo del desarrollo del estudio de la resiliencia, ha habido un cambio gradual desde su consideración como una simple característica de los individuos a una visión de la misma como resultado de una compleja interacción entre el individuo, la familia, la comunidad y la sociedad.

De acuerdo con esta perspectiva, la resiliencia consiste en una propiedad emergente que implica la interacción sistémica de muchos factores internos y externos, un conjunto de la interacción entre el individuo y su mundo. Ahí radica la importancia de identificar qué factores ambientales y personales son responsables de la adaptación positiva, con el fin de desarrollar programas teniendo como objetivo promover la resiliencia.

Algunos de los sistemas de adaptación más poderosos para el funcionamiento humano están incrustados en nuestras comunidades y nuestras culturas, y recientemente proliferan las investigaciones que tratan de comprender cómo la cultura apoya la resiliencia en el ser humano; investigar en qué medida la cultura influye en la resiliencia. Existen estudios que analizan la resiliencia desde el punto de vista de la adaptación comunitaria, siendo la resiliencia comunitaria un proceso que vincula una red de capacidades del grupo a la adaptación tras una adversidad (Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008). Otros se centran en analizar cómo se enfrentan los niños y jóvenes a las adversidades, relacionando el componente individual con el contexto social y cultural: el International Resilience Centre, en un trabajo liderado por Ungar y Liebenberg (2005), estudia algunas de las formas en las que la

cultura está involucrada en la resiliencia, basándose en estudios realizados en más de 25 países con centenares de jóvenes.

Si bien la resiliencia implica siempre una amenaza significativa y su correspondiente adaptación positiva, las formas en que las amenazas y la adaptación positiva son entendidas y experimentadas pueden diferir de un contexto a otro, de una cultura a otra y entre distintas personas. Una vez más, se ha de abordar la resiliencia en un contexto de la persona que incluya la comunidad, la cultura y el entorno lo más amplios posibles.

Si existen aspectos de la resiliencia que son globales y universales, y nos centramos en un contexto particular y común como es la escuela, nos surge la pregunta de cuáles serán dichos factores comunes y diferentes que hace que los alumnos de un país u otro sean resilientes académicamente.

Uno de los primeros estudios realizados y más completos llevados a cabo en el campo de la resiliencia, fue el estudio longitudinal llevado a cabo en la isla de Kauai por Werner y Smith (1982). Este estudio, conjuntamente con los estudios longitudinales posteriores inspirados en el anterior (Werner, 2005), demostraron que a los niños comprometidos y motivados les iba bien en la vida y particularmente en la escuela - resiliencia académica (Martin, 2002). Cabía, pues, pensar que las escuelas pueden favorecer la resiliencia promoviendo estrategias de pensamiento que favorezcan la solución del problema, la autorregulación y la motivación. En particular, los profesores, a través del cuidado y apoyo a sus alumnos, y de la transmisión de expectativas elevadas, tienen el poder de marcar la diferencia en la trayectoria de un adolescente. Esto es, la motivación generada por las acciones del profesor en la clase, podría actuar de moderadora sobre la resiliencia, influyendo en la relación existente entre una adversidad o un factor de riesgo y el impacto que tiene en términos de si la respuesta o resultado será una conducta resiliente. El clima motivacional de clase (Ames, 1992), actuando como moderador, marcaría la diferencia contribuyendo a que esa adversidad

no derivase directamente en una consecuencia negativa. Por ejemplo, una adversidad común en la que un/a alumno/a, tras estudiar para una asignatura reciba una mala nota o un mal resultado, podría desembocar en que se desanime y no estudie para la siguiente ocasión porque haya percibido que su esfuerzo no se relaciona con el resultado. Sin embargo, si tenemos un/a profesor/a que actúe ayudándole a analizar en qué ha fallado y qué podría haber hecho mejor (orientación hacia el aprendizaje versus orientación hacia el resultado), el/la alumno/a aprenderá a evaluar ese obstáculo como una oportunidad para hacerlo mejor en un futuro. Es posible que esa relación inicial negativa y directa, al verse moderada por la conducta del/de la profesora, cambie el resultado y las consecuencias sean positivas.

Los estudios revisados por Plaut y Markus (2005) han demostrado que las personas de diferentes países tienen diferentes modelos de competencia y motivación que influyen en la forma en que se comportan en los contextos de enseñanza y aprendizaje. Razón que evidencia la necesidad de analizar los componentes culturales no solo en la resiliencia académica, sino también en lo que los alumnos perciben como motivante.

Por todo lo anterior, convenía examinar cómo puede estructurarse el trabajo en el aula para optimizar la motivación de los estudiantes (Good & Brophy, 2000) y si esta estructura afecta a la resiliencia. Para ello es preciso poder identificar cuáles son los principales patrones de enseñanza que configuran el clima motivacional de clase, y desarrollar instrumentos con una validez adecuada, que permitan evaluarlos. Para conseguir este objetivo los trabajos de Alonso-Tapia y Fernández-Heredia (2008) han servido de base para realizar los dos últimos estudios de esta tesis, estudios que han permitido responder a preguntas como: ¿qué pautas de actuación del profesorado configuran los distintos ambientes o climas de aprendizaje que hacen que unos profesores motiven a sus alumnos más que otros? ¿Varían estas pautas de actuación motivadoras o desmotivadoras dependiendo del contexto socio-cultural? y ¿Cuál es la

influencia que el clima motivacional de clase ejerce sobre la resiliencia? ¿Existen diferencias entre los alumnos españoles y los de otros países en el grado en que actúan de modo resiliente ante los distintos tipos de situaciones adversas? ¿Y entre alumnos de escuelas urbanas y rurales, o públicas o privadas? Y los efectos en la forma de percibir el contexto escolar, así como en la motivación y en la satisfacción con el profesor, ¿son diferentes o similares?

En resumen, el principal objetivo de nuestra tesis es analizar el grado en que los factores personales y contextuales permiten predecir la resiliencia en la adolescencia y, principalmente, la manera en que interactúan. Teniendo presente este propósito, en primer lugar, nos centraremos en la medida de la resiliencia, las estrategias de afrontamiento y los factores de la personalidad que configuran la resiliency, y en el clima motivacional de clase. A continuación, analizaremos la relación de la resiliencia con los siguientes factores internos y externos: estrategias de afrontamiento, factores de riesgo y protectores, y clima motivacional de clase. Además, se analizará el significado que puede adquirir la resiliencia en distintos contextos.

Descripción de los estudios realizados

La parte empírica de la disertación se compone de seis estudios; el primero realiza la validación transcultural del cuestionario de resiliencia subjetiva diseñado antes de esta intervención. Los siguientes tres analizan el efecto de las estrategias de afrontamiento y de los factores de personalidad sobre la resiliencia, primero considerando cada grupo de predictores de manera separada y después en combinación. El quinto y el sexto estudio analizan la relación entre el clima generado por el/la profesor/a en clase y la resiliencia.

En el primer estudio, el objetivo era obtener información sobre la validez transcultural del “Cuestionario de Resiliencia Subjetiva” (SRQ), desarrollado para adolescentes. Con esta finalidad el estudio original llevado a cabo en España fue replicado con estudiantes franceses de educación secundaria, bachillerato y formación

profesional. Un total de 750 alumnos respondieron cuatro cuestionarios. Con el fin de validar el SRQ, se llevaron a cabo análisis factoriales confirmatorios, de correlaciones y regresión. El proceso de validación incluía la validación cruzada de los resultados que mostraban la estructura factorial, y el análisis de las relaciones de las puntuaciones de resiliencia con los diferentes tipos de factores de protección y vulnerabilidad - expectativas de éxito y clima motivacional de clase orientado hacia el aprendizaje (CMC) -. Los resultados, similares a los obtenidos en España, mostraron que la estructura factorial estaba bien definida; que la escala de resiliencia tenía buena fiabilidad; que las puntuaciones se correlacionaban según lo esperado con los factores de protección y de riesgo, tales como las expectativas de éxito y el CMC definido por los patrones de enseñanza de los profesores; y que la atribución de los estudiantes al cambio percibido en la resiliencia debido al trabajo del profesor dependía del grado en que el CMC estuviera orientado al aprendizaje. Asimismo, este estudio ha demostrado algunas diferencias en el grado de convergencia en que los estudiantes franceses y españoles reconocen actuar o no de forma resiliente en algunas de las situaciones cubiertas por el SRQ. Este estudio está ya publicado (Alonso-Tapia & Villasana, 2014).

En el segundo estudio, el objetivo era doble: en primer lugar, desarrollar y validar el Cuestionario de Afrontamiento Persona-Situación para Adolescentes (PSCQA), diseñado para evaluar la interacción “persona-situación” al usar estrategias de afrontamiento, y en segundo lugar, para analizar las relaciones entre estilos de afrontamiento (CS) y resiliencia (Rs). 1083 estudiantes españoles de secundaria y bachillerato de áreas rurales y urbanas, y de escuelas privadas y públicas, participaron en el estudio. Las hipótesis relativas al modelo estructural bifactorial incluyendo el efecto moderador de los tipos de situaciones estresantes en el uso de estrategias de afrontamiento, y las hipótesis relativas a la relación entre los dos estilos de afrontamiento identificados - CS centrados en las emociones y en la solución del

problema - y la resiliencia fueron respaldadas por análisis de ajuste de datos utilizando técnicas confirmatorias (CFA y PALV). Los resultados mostraron la gran importancia de cada tipo de situación adversa en la activación o inhibición de las estrategias de afrontamiento, pero también mostraron que los CS predicen la Rs. Este estudio también ha sido publicado (Villasana, Alonso-Tapia, & Ruiz, 2016).

En el tercer estudio el propósito era obtener evidencias de la suposición de que los factores de personalidad subyacen a la resiliencia y analizar el papel de la integración social dentro de esta relación. Las escalas de Prince-Embury (PES) se adaptaron a la población española con este objetivo, para así analizar la relación entre las variables de la *resiliency* - sentido de dominio, sentido de relación y reactividad emocional -, evaluadas con las PES, y la resiliencia, evaluada mediante el Cuestionario de Resiliencia Subjetiva (SRQ). Se analizaron los datos de 1083 alumnos mediante técnicas confirmatorias (CFA, PALV). Los análisis factoriales confirmatorios mostraron el buen ajuste del modelo. Los análisis de vías mostraron que el sentido de dominio y la reactividad emocional predicen la resiliencia tal como se esperaba, en cambio, el sentido de relación y la resiliencia no están relacionados, ni directamente ni a través de la integración social. Estar integrado y relacionado socialmente no favorece la resiliencia a menos que esté asociado al sentido de dominio, sin embargo, puede favorecer el bienestar. Este estudio ha sido aceptado para su publicación (Villasana, Alonso-Tapia, & Ruiz, *en prensa*).

El cuarto estudio surgió a partir de trabajos previos, que concluyeron la importancia de las estrategias de afrontamiento como procesos que constituyen la base de la resiliencia, y el papel modulador de los factores de personalidad, generando la necesidad de conocer el peso específico de cada factor dentro de la resiliencia. El objetivo era analizar el ajuste relativo y la validez predictiva de dos modelos predictivos sobre las relaciones hipotéticas en la adolescencia entre afrontamiento, *resiliency* y

resiliencia. La muestra estaba compuesta por 1078 alumnos españoles con edades comprendidas entre los 12 y 18 años. Con el fin de determinar en qué medida las variables en el modelo predicen la resiliencia, se llevaron a cabo cuatro análisis de vías con variables latentes (PALV), dos para analizar cada modelo y los dos restantes para validación cruzada. Los resultados mostraron que la resiliencia parece depender principalmente de los estilos y estrategias de afrontamiento, y que el efecto de los CS sobre la resiliencia está mediado a través de los factores de personalidad incluidos en el modelo. El efecto de los factores de personalidad sobre la resiliencia es muy bajo. Además, el efecto del sentido de relación era contrario a las expectativas de estudios previos. Este estudio también ha sido publicado (Villasana, Alonso-Tapia, & Ruiz, 2017).

En el quinto estudio, el objetivo era analizar si las características que definen un Clima Motivacional de Clase (CMC) orientado hacia el aprendizaje para adolescentes son las mismas en contextos culturales diferentes mediante la comparación de resultados franceses y españoles. La muestra estaba formada por un total de 749 alumnos franceses de educación secundaria, bachillerato y formación profesional, que fue comparada con la muestra original española. Con el fin de validar el “Cuestionario de Clima Motivacional de Clase” (CMCQ), se llevaron a cabo análisis factoriales confirmatorios, análisis de fiabilidad y correlación, así como de regresión. Los resultados mostraron que la manera en que se operacionaliza el clima motivacional de clase a través del CMCQ es válido no solo en España sino también en Francia, y permite detectar qué pautas de aprendizaje se pueden cambiar para mejorarlas, así como predecir en gran medida el nivel de satisfacción con el/la profesor/a. Además, resulta evidente que hay diferencias significativas en la manera de percibir el valor motivacional de las pautas de enseñanza entre los alumnos franceses y españoles, las cuales influyen en la manera en que los alumnos se comportan en contextos educativos

y de aprendizaje. Este estudio también ha sido publicado (Villasana & Alonso-Tapia, 2015).

En el sexto estudio, el propósito era determinar qué podrían hacer los educadores con el fin de aumentar la resiliencia académica. Con este objetivo se analizó hasta qué punto interactúan el clima motivacional y las expectativas de los alumnos con la resiliencia académica, resultando en un cambio de la misma. Un total de 749 alumnos franceses completaron un cuestionario de resiliencia y otro de clima motivacional, una escala de expectativas de éxito y cinco escalas independientes dirigidas a evaluar el papel del/de la profesor/a en la transformación de las características motivacionales del/de la alumno/a. El análisis de vías mostró que las evidencias apoyan nuestras expectativas iniciales: el cambio percibido en la resiliencia académica depende especialmente del clima creado por el/la profesor/a. Este estudio ha sido enviado para su publicación.

En el último capítulo, se presentan y analizan los resultados principales de esta tesis y sus implicaciones educativas. En términos generales, la resiliencia en la adolescencia depende principalmente de las estrategias de afrontamiento - de manera positiva de las estrategias centradas en la solución del problema, y negativamente de las centradas en las emociones - y del clima generado por el/la profesor/a. Es más, existen diferencias sociales y conceptuales significativas tanto en la percepción de la resiliencia como en los factores que influyen en ella. Además, la integración social no tiene ninguna relación con la resiliencia, aunque puede tenerla con el nivel de bienestar. También se analizan las limitaciones y futuras líneas de trabajo.

Resumen de los artículos

Artículo 1

Alonso-Tapia, J., y Villasana, M. (2014). Assessment of subjective resilience: cross-cultural validity and educational implications. Evaluación de la resiliencia subjetiva: validez transcultural e implicaciones educativas del ‘Cuestionario de Resiliencia Subjetiva’ (SRQ), *Infancia y Aprendizaje/Journal for the Study of Education and Development*.

<http://dx.doi.org/10.1080/02103702.2014.965462>

Artículo 2

Villasana, M., Alonso-Tapia, J., y Ruiz, M. (2016). A model for assessing coping and its relation to resilience in adolescence from the perspective of “person-situation interaction”. *Personality and Individual Differences*, 98, 250-256.

<http://dx.doi.org/10.1016/j.paid.2016.04.053>

Artículo 3

Villasana, M., Alonso-Tapia, J., y Ruiz, M. A. (*In press*). Personal factors underlying resilience in adolescence: Cross-cultural validity of the Prince-Embury model. *The Spanish Journal of Psychology*.

Artículo 4

Villasana, M., Alonso-Tapia, J., y Ruiz, M. A. (2017). Coping processes and personality factors as predictors of *resilience* in adolescent students: Validation of a structural model. *Revista de Psicodidáctica*, 22(2).

<http://dx.doi.org/10.1387/RevPsicodidact.16889>

Artículo 5

Villasana, M., y Alonso-Tapia, J. (2015). Cross-Cultural Validity of the “Classroom Motivational Climate Questionnaire”: Comparison between French and Spanish Students. *Revista de Psicodidáctica*, 20(2), 247-256.

<http://dx.doi.org/10.1387/RevPsicodidact.13034>

Artículo 6

Villasana, M., y Alonso-Tapia, J. (*Submitted*). Learning environmental factors affecting the perceived change in academic resilience.

Introduction

Everyone, at some point in their lives, will have to deal with some adverse situations. However, it is a fact that not everyone faces them in the same way. There are people who break down in the face of difficulties, they become depressed, feel anxious or stagnate in the problem, while others are not only able to cope with them, but also to come out strengthened from these situations.

We live in a time of continuous changes on the social, educational and economic levels, in which increasingly more children and families experience emotional difficulties, making it necessary to have the internal strength to overcome them. The good news is that while no one is invulnerable, we are not defenseless. We can develop a capacity that allows us to face the difficulties and grow thanks to it: *resilience*.

Resilience is continuously present and around us. We see it in terrible situations provoked by wars, natural disasters or cases of exploitation; children who lose their parents and relatives, whose environment becomes insecure, and that in many cases, they have to leave their place of origin in the hope of having a better future. We see it in situations of poverty in places not so distant, children whose families do not have enough economic resources to ensure a quality food and in which social exclusion forces them to fight more in order to get to the same place. It is also present on a daily and recurrent basis among children and adolescents who have to face situations of rejection or exclusion from their peers, situations of misunderstanding from their teachers or relatives, or adversities throughout their school studies.

In these cases, there are always people who are able to efficiently manage problems and succeed, and even to learn from such experiences to better adapt to the challenges of the future. Resilient people, who in the face of adversity do not get discouraged and even emerge reinforced, which facilitates their adjustment and personal development. This feature influences the personal and social balance, reason that has aroused the

interest to understand its nature and the variables on which it depends, since this knowledge would make it possible to know in which direction to act and how to do it during the educational process in order to facilitate its development. There is tremendous variability in the way children and adolescents respond to adversity, hence we need to understand the processes that lead to positive outcomes and recovery, with the aim of helping also other children who do not recover.

Questions

This thesis, which focuses on the study of resilience in adolescence, begins with a set of questions that we will try to give an answer, to the extent possible, in this work: why do many teenagers sink into adversity, whereas others become stronger? What favors or protects the latter to react so well? How can we help parents and teachers to promote that teens and youth do well in life and succeed academically?

In order to shed light on these questions, the answer to a series of previous questions becomes essential. First, those related to the different perspectives that have to do with the very nature of resilience: what exactly is resilience and how can we measure it? Defining it, delimiting it and measuring it will allow us to undertake further analysis on who is resilient and to what degree, and to be able to consequently investigate what makes the difference. Secondly, we need to know what makes an adolescent resilient, both on the individual and contextual levels (personal, school, family, cultural, etc.), that is, we need to identify which protection factors favor resilience. Third, we need to know the processes that underlie resilience looking for answers to the next question: how exactly do these protective factors work? Once we know which these factors and processes are, we will be able to intervene and favor the promotion of resilience.

In order to try to answer the before mentioned questions, they have been carried out the six studies that make up this thesis. Four of them have been already published, and one accepted for publication, the last one being reviewed. However, before proceeding

to its presentation, we believe it necessary to provide the general theoretical context from which the different studies have been confronted.

Theoretical framework

Adolescence becomes an essentially complex moment throughout life cycle, in which the youth is faced with many obstacles and challenges. At this stage, there are key processes in which each individual's resilience will mark the way in which he/she overcomes those challenges. Resilience helps people coping with stress and adversity, overcoming childhood handicaps, getting over adverse situations, and reaching new opportunities (Reivich & Shatté, 2002).

When we think of a young person who has proved to be resilient, we have in mind two components (Luthar, 2006): a positive adaptation and an adverse situation (a risk, a problem). If a person does well without having faced an adversity, he/she is likely to be a happy person, but not a resilient person.

The term "resilience" refers to positive adaptation or recovery despite experiences of significant adversity, i.e. in spite of life situations that generally produce imbalance, and this seems a statement shared by most researchers in resilience. However, the various conceptual perspectives and methodological strategies used in research make it difficult to progress in understanding the nature, determinants, and effects of resilience, unless some obstacles are overcome (Luthar & Brown, 2007; Masten, 2007), which will be developed below.

We start from the fact that resilience - as a phenomenon - needs to be explained (Leipold & Greve, 2009) and delimited. Thus, to determine precisely what types of factors contribute to resilience, or whether resilience is different or not from the characteristics referred by other personality concepts - such as "competence," "ego-resilience," and "resistance" - the phenomenon itself needs to be measured in a certain way. That is, it is necessary to express the degree of positive adaptation in front of the

conditions that involve a great risk of developing maladjustment; it is necessary to measure the phenomenon to validate the "procedural models" that can be hypothesized to explain resilience.

In order to determine how to measure resilience, a systematic review of the existing work on the measurement of resilience was carried out. There are mainly two previous works that make it easier to investigate what is known so far in regards to the assessment of resilience. First, a systematic review of the methodological and conceptual problems associated to the measuring of resilience, carried out as part of the "Reaching in... Reaching out" project (Vine et al., 2010). And, secondly, a methodological review of the resilience measurement scales carried out by Windle et al. (2011).

In the "Reaching in... Reaching out" project (Vine et al., 2010) a total of 38 assessment instruments aimed at measuring resilience and related characteristics were examined, as well as risk and protection factors. However, all measures, even the one included under the title "resilience", were focused on factors that favor resilience but do not measure the phenomenon itself.

Windle et al. (2011), on the other hand, examined the quality of 19 measures of resilience from a conceptual and methodological point of view. Among valuation criteria used were included consideration of content's validity, internal consistency, predictive validity, construct validity, replicability, response to intervention, control of ground and ceiling effects, and interpretability. Many of the scales had also been examined within the frame of the "Reaching in... Reaching out" project (Vine et al., 2010). The results showed that the conceptual and theoretical adequacy of many scales was questionable, that most scales were in the initial stages of development, and that only three (all for adults) could be acceptable based on their psychometric properties. It was evident that there were no adequate measures of resilience for adolescents, but

resilience needs to be measured, since without measuring the phenomenon it is difficult to differentiate in empirical fields the similarities and differences with concepts of personality. It was necessary, therefore, to confront this problem, but how to do it? Above all, there is a need for a conceptual explanation of the concept of "resilience" and of what subjective "resilience" implies.

Resilience

First, in regards to the concept of "resilience", in this thesis, we agree on Masten's (2014) meaning of resilience, understanding it as "the capacity of a system to adapt successfully to disturbances that pose a threat to that system's stability, its life or its development", and more specifically, as indicated at the outset, with Luthar's (2006) analysis that points out the need of considering two components: an adverse situation (a risk, a problem) and a positive adaptation to it. Consequently, in order to go deeper into the scientific work, it becomes necessary to define specifically, on the one hand, the criterion of adversity that we are going to follow, and on the other hand, what we are talking about when we refer to adaptation.

In adversity there are very subjective nuances. It becomes evident the risk in cases of war, malnutrition, loss of parents, etc. However, each adolescent has to deal with situations that, whereas for some could be a real obstacle, for others it is not. Those are precisely the daily difficulties that are initially less risky, but which may be a problem for some young people when it comes to overcome, and the ones that we will address in this work: daily adversities that a teenager can face in his/her day-to-day life that have to do with his/her parents, classmates or teachers.

When we refer to adaptation, it is necessary to emphasize that we will refer to the adolescent's subjective perception of having overcome the difficulty with success, and to the fact that this does not imply a problem to him/her and that it allows him/her to continue with his life in a positive way. In this thesis, we will not focus on the cultural

component of adaptation, in what is considered socially resilient, but we will focus on the individual dimension that underlies emotional recovery and getting ahead.

As for the concept of "*subjective* resilience" (or perceived, if preferred), its usefulness becomes clear if one considers the problem of assessment and measurement of resilience. This can be based on behaviors that show positive adaptation (objective measure) or on the perception of the usual way of reacting to adverse situations (subjective measure). Each type of measure has its own advantages and disadvantages, but both are necessary, for both show different facets of resilience. However, since objective measures require longitudinal studies (Werner, 2005), within the framework of the project in which this thesis was developed Alonso-Tapia, Nieto and Ruiz (2013) decided to develop a questionnaire of "subjective resilience" that covered the gap detected and to carry out an analysis with the aim of checking its validity. This measure has been the starting point of our work for the reasons given below.

The concept of subjective resilience, i.e. "the subjective experience of not giving up before adversity", had not been addressed until the development of the aforementioned questionnaire. However, taking into account subjective experience is important for three reasons: 1) because this experience is an "aspect" of resilience that can play a role in helping people when deciding how to act in front of adversity; 2) because measuring subjective resilience could help to analyze the relationships between resilience's and personality's characteristics that are related to subjective resilience; 3) because if measures were to be developed on subjective resilience, these measures would simplify: a) the validation process of models related to protection and vulnerability "factors" underlying resilience; b) the validation process of models related to the "procedures" that make resilience possible (Leipold & Greve, 2009); and c) the assessment of the efficiency of the intervention programs aimed at favoring resilience. As resilience is not an "all or nothing" phenomenon - people can be more or less resilient, or can be resilient

in a context but not in others (Luther, 2006; Masten, 2007) - "subjective resilience" may be more sensitive to short-term educational interventions (people may feel secure and have a tendency to act resilient before acting in such a way) than to objective measures based on observed behavioral indexes that may manifest medium- or long-term resilience. Of course, subjective resilience measures should be compared over the long term with more objective measures in order to verify their validity.

Factors affecting resilience

The main objective of this thesis was not so much the development of instruments for the evaluation of resilience but rather the study of the personal characteristics and the contexts linked to the action of the teacher that can influence it. Given that each of the chapters in which the published articles are collected gives a detailed account of the theoretical basis on which they are based, we will briefly set out the assumptions from which the study of each one has been addressed.

Internal protective factors: 1) Coping strategies

Risk and protective factors - personal or contextual - are the characteristics that increase (protective) or decrease (risk) the likelihood of being resilient. When looking for what personal factors should be taken into account in order to explain an adolescent's resilience or the absence of it, the first ones to be considered were the coping strategies and styles.

The growing interest in the study of coping strategies is the result of recognizing in them a particular way of reacting to the different situations that generate stress, as well as understanding their positive function of mitigating the harmful effects of it (Leibovich, Schmidt & Marro, 2002). While there may be processes that underlie resilience, such as the use of coping strategies (Leipold & Greve, 2009), no study to date had provided evidence of the existing relationship between coping styles and strategies and global resilience.

But what exactly do we mean by the term "coping"? Lazarus and Folkman (1984) defined coping as "those constantly changing cognitive and behavioral efforts that are developed in order to manage the specific external and/or internal demands that are assessed/defined as those exceeding the resources of the individual".

The distinction between problem-centered and emotion-centered strategies is the most frequently used one within the study of coping in psychology. The use of ones or the others would depend to a great extent on the control over the situation. Problem-centered coping aims to deal with the problem that is causing discomfort. It includes a broader set of strategies, which would include, inter alia, "thinking avoidance", "positive thinking", "help-seeking", "look for problem solution", and "rumination". Instead, emotion-based coping involves methods aimed at regulating the emotional response to the problem, usually including strategies such as "emotional expression", "self-isolation", and "self-blaming", among others.

The use of appropriate coping strategies when dealing with adversity could explain the degree of resilience manifested, and in turn it would be important to know the relative weight (the importance of each of the strategies in particular) in resilience, since, depending on the answer to this question, the implications for the assessment and intervention would be different. For this reason, one of the objectives of this thesis has been to analyze the relationship between coping strategies and resilience in adolescence, an objective for which it has been necessary to previously base and develop a questionnaire on coping strategies, as it is discussed below.

Internal protective factors: 2) Personality characteristics

In addition to coping strategies, when considering which factors could contribute to resilience or to the lack of it, it has been necessary to consider certain personality factors. The reason is that evident differences in subjective resilience may depend both on the specific action strategies that are launched during the coping process of the

different types of adversities and on the personality factors -cognitive and emotional patterns of interaction between the person and his/her environment- relatively stable, though not unchangeable, consolidated throughout the development. Olsson et al. (2003) had reviewed and summarized the most frequently mentioned personality factors in relation to resilience -tolerance towards negative affective states, self-efficacy, self-esteem, foundational sense of self, internal locus of control, and sense of humor, among others. However, there was neither any model that integrated these factors nor an instrument that allowed the joint assessment and study of these factors. Fortunately, Prince-Embury (2007) and the recently published set of papers related to her own studies represent a good line of research on personality factors developed among children and adolescents. In these works the basis is a model of "*resiliency*", a term that refers to the personality factors that affect resilience. This model includes three sets of factors.

First, "sense of mastery," understood as the expectation of being able to do or achieve something, expectation based on the experience of having enough resources or on the perception of having that ability. Its indicators are: optimism, self-efficacy, adaptability.

Secondly, "sense of relatedness", based on the external help or support provided by the relationship with others. It integrates four factors or characteristics which are more specific: trust, support, comfort with others, tolerance.

Thirdly, "emotional reactivity". It would be negatively related to resilience, since it implies difficulty for controlling one's own impulses and for carrying out the actions necessary for behaving in an adaptive and efficient way. It synthesizes the combined effect of three personal characteristics: sensitivity, difficulty of recovery and cognitive or behavioral block.

Given the lack of studies that related personality factors (resiliency) with resilience in adolescence in general and in Spain in particular, in this thesis it was decided to study the aforementioned relationship, for which it was necessary to previously adapt the instrument created by Prince-Embury to Spanish.

It also happens that it is possible that the coping styles and personality factors that may underlie resilience are related. Faced with this possibility, it is necessary to ask how they relate and what the weight of each one in the resilience is. Since there was no model to address this problem, it was considered that, regarding more specific action patterns, the effect of coping strategies could be mediated - or moderated - by the dispositions of personality, idea over which we develop a predictive model of hypothetical relationships between coping, personality factors (resiliency) and resilience that has been the object of another of the published studies.

Contextual protective factors: culture and motivational climate

Throughout the development of the study of resilience, there has been a gradual shift from its consideration as a simple characteristic of individuals towards a view of it as a result of a complex interaction between the individual, the family, the community and the society.

According to this perspective, resilience consists of a resultant and emerging property that involves the systemic interaction of many internal and external factors, a set of the interaction between the individual and his/her world. Therein lies the importance of identifying what environmental and personal factors are responsible for the positive adaptation, in order to develop programs aiming to promote resilience.

Some of the most powerful adaptation systems for human functioning are embedded in our communities and cultures, and there is a recent bloom of research that attempts to understand how culture supports resilience on human beings; to investigate to what extent culture influences resilience. There are studies that analyze resilience from the

point of view of community adaptation, being community resilience the process that links a network of group capacities to adaptation in front of adverse situations (Norris et al., 2008). Others focus on analyzing how children and young people face adversity by relating the individual component to the social and cultural context: the International Resilience Centre, in a work led by Ungar and Liebenberg (2005), studies some of the ways in which culture is involved in resilience, based on studies carried out in over 25 countries with hundreds of young people.

While resilience always involves a significant threat and its corresponding positive adaptation, the ways in which threats and positive adaptation are understood and experienced may differ from one context to another, from one culture to another, and between different people. Once again, resilience must be addressed in a person's context that includes the broadest possible community, culture and environment.

If there are aspects of resilience which are global and universal, and we focus on a particular and common context as it is the school, arises the question of which will be such common and different factors that make students from one country or another to be academically resilient.

One of the earliest and most comprehensive studies carried out in the field of resilience was the longitudinal study carried out in the island of Kauai by Werner and Smith (1982). This study, along with subsequent longitudinal studies inspired by it (Werner, 2005), demonstrated that committed and motivated children did well in life and particularly at school - academic resilience (Martin, 2002). It could therefore be thought that schools can foster resilience by promoting thinking strategies that favor problem-solving, self-regulation and motivation. Particularly, teachers, by caring and supporting their students, and by transmitting them high expectations, have the power to make a difference in the trajectory of an adolescent. That is, the motivation generated by the teacher's actions in the classroom could act as a moderator over resilience, by

influencing the relationship between an adversity or a risk factor and the impact it has in terms of whether the response or outcome will be a resilient behavior or not. The classroom motivational climate (Ames, 1992), acting as moderator, would make the difference by making this adversity not resulting directly in a negative consequence. For example, a common adversity in which a student, after studying for a subject receives a bad grade or a bad result, could lead to a discouragement making him/her not to study next time because he/she has perceived that his/her effort is not related to the result. However, if we have a teacher who acts by helping him/her to analyze in what has failed and what he/she could have done better (learning orientation versus outcome orientation), he/she will learn to assess that obstacle as an opportunity to do better in the future. It is possible that this initial negative and direct relationship, when moderated by the behavior of the teacher, modifies the final result and therefore consequences to be positive.

The studies reviewed by Plaut and Markus (2005) have shown that people from different countries have different models of competence and motivation that influence the way they behave in teaching and learning contexts. Reason that shows the need of analyzing the cultural components not only in academic resilience, but also in what students perceive as motivating.

For all of the above reasons, it was convenient to examine how classroom work can be structured to optimize students' motivation (Good & Brophy, 2000) and whether this structure affects resilience. To do this, it is necessary to be able to identify the main teaching patterns that shape the classroom motivational climate, and to develop instruments with an adequate validity that allows assessing them. In order to achieve this objective, the works of Alonso-Tapia and Fernández-Heredia (2008) have served as a basis for the last two studies of this thesis, studies that have allowed answering questions such as: which teaching patterns shape the different environments or learning

climates that make some teachers to motivate their students more than others? Do these motivating or demotivating patterns vary depending on the socio-cultural context? And what is the influence that the classroom motivational climate exerts on resilience? Are there differences between Spanish students and those of other countries regarding the extent to which they act in a resilient way in front of different types of adverse situations? And between students of urban and rural schools, or between public or private ones? And regarding the way of perceiving the school context, as well as the motivation and satisfaction with the teacher, are the effects different or similar?

Summarizing, the main objective of our thesis is to study the degree in which personal and contextual factors allow predicting resilience in adolescence and, above all, the way they interact. With this objective in mind, first of all, we will focus on the measurement of resilience, coping strategies and personality factors configuring resiliency, and on classroom motivational climate. Afterwards, we will analyze the relationship of the resilience with the following internal and external factors: coping strategies, risk and protective factors, and classroom motivational climate. Additionally, it will be analyzed the significance that resilience can take in different contexts.

Description of studies conducted

The empirical part of the dissertation is composed of six studies; the first one carries out the cross-cultural validation of the subjective resilience questionnaire designed prior to this intervention. The following three analyze the effect of coping strategies and personality factors on resilience, first considering each group of predictors separately and then considering them combined. The fifth and sixth studies analyze the relationship between the climate generated by the teacher in the classroom and resilience.

In the first study, the objective was to obtain information about the cross-cultural validity of the “Subjective Resilience Questionnaire” (SRQ), developed for adolescents.

With this purpose the original study carried out in Spain was replicated using French students from secondary education, high school and vocational education. A total of 750 students answered four questionnaires. In order to validate the SRQ, confirmatory factor analyses, reliability analysis and correlation and regression analyses were made. The validation process included the analysis of the generalizability of factor structure, and of relationships of resilience scores with different kinds of protective and vulnerability factors - success expectancies and learning-oriented classroom motivational climate (CMC) -. The results, similar to those obtained in Spain, showed that factor structure was well defined; that resilience scale had good reliability; that scores correlated as expected with protective-vulnerability factors such as success expectancies and CMC defined by teachers' teaching-patterns; and that students' attribution of perceived change in resilience to teacher's work depended on the degree in which CMC was learning-oriented. Likewise, this study has shown some differences in the degree of convergence in which French and Spanish students recognize to act or not in a resilient way in some of the situations covered by SRQ. This study is already published (Alonso-Tapia & Villasana, 2014).

In the second study, the objective was twofold: first of all, to develop and validate the Person-Situation Coping Questionnaire for Adolescents (PSCQA), designed for assessing the "person-situation" interaction when using coping strategies, and secondly, to analyze the relationships between coping styles (CS) and resilience (Rs). 1083 Spanish secondary education and high school students from rural and urban areas, and from private and public schools, participated in the study. Hypotheses concerning the bi-factor structural model including the moderator effect of the kinds of stressing situations on the use of coping strategies, and hypotheses concerning the relationship between the two coping styles identified - emotion-centered and problem-solving centered CS - and resilience were supported by data fit analysis using confirmatory

techniques (CFA & PALV). Results exhibited the great importance of each kind of adverse situation in the activation or inhibition of the coping strategies, but also that CS predict Rs. This study has also been published (Villasana, Alonso-Tapia, & Ruiz, 2016).

In the third study the aim was to obtain evidence of the supposition that resiliency personality factors underlie resilience and to analyze the role of social integration within this relationship. The Prince-Embury scales (PES) were adapted to the Spanish population with this purpose, therefore to analyze the relationship between the resiliency variables - sense of mastery, sense of relatedness and emotional reactivity -, assessed with the PES, and resilience, assessed with the Subjective Resilience Questionnaire (SRQ). Data from 1083 students were analyzed using confirmatory techniques (CFA, PALV). CFA of Prince-Embury scales displayed a good fit to the model. Path-analysis showed that sense of mastery and the emotional reactivity predict resilience as expected, however, sense of relatedness and resilience are not related, either directly, or through social integration. Being integrated and socially related does not favor resilience unless associated to sense of mastery, nevertheless it may favor well-being. This study has been accepted for publication (Villasana, Alonso-Tapia, & Ruiz, *in press*).

The fourth study arose from previous works, which concluded the importance of coping strategies as processes underlying resilience, and the modulating role of personality factors, generating the need of knowing the specific weight of each factor within resilience. The objective was to analyze the relative fit and the predictive validity of two predictive models on the hypothetical relations in adolescence between coping, resiliency and resilience. The sample was composed of 1078 Spanish students aged between 12 and 18 years. With the aim of determining to what extent the variables in the model predict resilience, four path analyses with latent variables (PALV) were carried out, two for testing each model and the remaining two for cross-validation.

Results showed that resilience seems to depend mainly on coping styles and strategies, and that the effect of CS on resilience is mediated through the personality factors included in the model. The effect of personality factors on resilience is very low. Moreover, the effect of sense of relatedness was contrary to the expectations coming from previous studies. This study has also been published (Villasana, Alonso-Tapia, & Ruiz, 2017).

In the fifth study, the objective was to test whether the characteristics defining a learning-oriented Classroom Motivational Climate (CMC) for teenagers are the same in different cultural contexts by comparing French and Spanish results. A total of 749 secondary education, high school and vocational education French students formed the sample that was compared with the original Spanish one. In order to validate the “Classroom Motivational Climate Questionnaire” (CMCQ), confirmatory factor analyses, reliability, correlation and regression analyses were made. The results showed that the way in which classroom motivational climate is operationalized through the CMCQ is valid not only in Spain but also in France, and it allows detecting which learning patterns are possible to be changed for improvement, and predicts to a large extent the satisfaction level with the teacher. In addition, it becomes evident that there are significant differences in the way of perceiving the motivational value of teaching patterns between French and Spanish students, which influence the way the students behave in teaching and learning contexts. This study has been also published (Villasana & Alonso-Tapia, 2015).

In the sixth study, the objective was to determine what educators could do in order to enhance academic resilience. With this purpose it was analyzed to what extent the motivational climate and the students’ expectations interact with academic resilience, resulting in a change in it. A total of 749 French students filled in a questionnaire of resilience and another of motivational climate, a success expectancy scale and five

independent scales aimed at assessing teacher's role in modifying student's motivational characteristics. Path-analysis showed that evidence supports our initial expectations: the perceived change in academic resilience especially depends on the climate created by the teacher. This study has been submitted for publication.

In the last chapter, the main results of this dissertation and its educational implications are presented and discussed. In general terms, resilience in adolescence mainly depends on coping strategies - in a positive way on problem-solving focused strategies, and in a negative way on emotion-centered ones - and on the climate created by the teacher. Furthermore, there are significant social and conceptual differences both in the perception of resilience and in the factors that have influence on it. Besides, social integration does not bear any relation with resilience, although it might have it with well-being level. Limitations and future lines of work are also examined.

Summary of papers

Article 1

Alonso-Tapia, J., & Villasana, M. (2014). Assessment of subjective resilience: cross-cultural validity and educational implications. Evaluación de la resiliencia subjetiva: validez transcultural e implicaciones educativas del ‘Cuestionario de Resiliencia Subjetiva’ (SRQ), *Infancia y Aprendizaje / Journal for the Study of Education and Development*.

<http://dx.doi.org/10.1080/02103702.2014.965462>

Article 2

Villasana, M., Alonso-Tapia, J., & Ruiz, M. (2016). A model for assessing coping and its relation to resilience in adolescence from the perspective of “person-situation interaction”. *Personality and Individual Differences*, 98, 250-256.

<http://dx.doi.org/10.1016/j.paid.2016.04.053>

Article 3

Villasana, M., Alonso-Tapia, J., & Ruiz, M. A. (*In press*). Personal factors underlying resilience in adolescence: Cross-cultural validity of the Prince-Embury model. *The Spanish Journal of Psychology*.

Article 4

Villasana, M., Alonso-Tapia, J., & Ruiz, M. A. (2017). Coping processes and personality factors as predictors of *resilience* in adolescent students: Validation of a structural model. *Revista de Psicodidáctica*, 22(2).

<http://dx.doi.org/10.1387/RevPsicodidact.16889>

Article 5

Villasana, M., & Alonso-Tapia, J. (2015). Cross-Cultural Validity of the “Classroom Motivational Climate Questionnaire”: Comparison between French and Spanish Students. *Revista de Psicodidáctica*, 20(2), 247-256.
<http://dx.doi.org/10.1387/RevPsicodidact.13034>

Article 6

Villasana, M., & Alonso-Tapia, J. (*Submitted*). Learning environmental factors affecting the perceived change in academic resilience.

CHAPTER II

Article 1. Assessment of subjective resilience: cross-cultural validity and educational implications

**Assessment of subjective resilience: cross-cultural validity
and educational implications**

Jesús Alonso-Tapia and Mercedes Villasana

Infancia y Aprendizaje

Abstract

The objective of this study was to obtain evidence about the cross-cultural validity of the ‘Subjective Resilience Questionnaire’ (SRQ), comparing French and Spanish students’ results from secondary education, high school and vocational education. A total of 750 French students formed the sample. To validate the SRQ, confirmatory factor analyses, reliability and correlation and regression analyses were made. The validation process included the analysis of the generalizability of factor structure, and of relationships of resilience scores with different kinds of protective and vulnerability factors - success expectancies and learning- oriented classroom motivational climate (CMC). French results were similar to Spanish results, underlying the importance of considering variations in resilience as a function of the kinds of adversity experienced. Nevertheless, some differences between French and Spanish students were found in the degree they recognize to act in a resilient way in some of the situations covered by SRQ, differences whose theoretical and practical implications for education are discussed.

Keywords: resilience; resilience assessment; classroom motivational climate; questionnaire development; expectancies; learning motivation.

Recently, Alonso-Tapia, Nieto and Ruiz (2013) have developed the Subjective Resilience Questionnaire (SRQ). ‘Resilience’, because it should inform of reactions to adverse conditions that the individual undergoes in the family, and in the school due to teachers’ and peers actions; and ‘Subjective’, because the aim was to know the *students’ personal perspective* on how they react to such adverse situations. The creation of this questionnaire came from the fact that most of the research on resilience had revolved around the identification of risk and protective factors that favor positive answers in front of life’s adverse circumstances. Nevertheless, when bearing in mind such a research trajectory, it can be concluded that it would be advisable to solve two problems in order to keep on progressing (Luthar, 2006; Luthar & Brown, 2007; Masten, 2007; Masten & Coatsworth, 1998; Ungar, 2005): (a) the varied conceptual perspectives on resilience; and (b) the lack of a model universally accepted that allows measuring the phenomenon of resilience itself, as there is a diversity of methodological strategies used for assessing it.

The development of the SRQ was intended to give an answer to both problems and to provide researchers and school psychologists with a useful assessment instrument. As the intent was successful, it was decided to see whether the questionnaire was valid in a different cultural context, therefore this constitutes the objective of this study.

Theoretical framework

Concerning the conceptual issue, the terms ‘resilience’, ‘competence’, ‘ego-resilience’ and ‘hardiness’ overlap in some way, and it was necessary to decide if they are different or redundant theoretical constructs. As explained by Alonso-Tapia et al. (2013), Luthar (2006) used theoretical criteria in order to clarify the similarities and differences. For her, *resilience* implies two elements, positive adaptation and adverse situations, whereas *competence* implies only the first. As for *ego-resilience*, it is considered a trait reflecting general resourcefulness in response to varying situations,

whereas *resilience* is a phenomenon. As for *hardiness*, it is a general trait including three personality dispositions: commitment (having a purpose, being active, etc.), control expectancies, and challenge (Kobasa, Maddi, & Kahn, 1982). Other authors even consider that resilience is a personality super-factor including different intermediate personality factors (Block, 2001).

On the other hand, resilient behavior is a phenomenon that needs to be explained, as it is the case with most personality traits (Leipold & Greve, 2009). Therefore, in order to determine precisely what kind of factors contribute to resilience, or whether resilience is different or not from other personality concepts, or even to validate more precisely 'sturdy models' that may explain resilience, the phenomenon itself, not only its causes, needs to be measured. How can it be done?

Alonso-Tapia et al. (2013) started from a review of previous research works on measurement of resilience. Two recent works made the answer to this task easier: (a) a methodological review on resilience measurement scales carried out by Windle, Bennet and Noyes (2011); and (b) a systematic review of the methodological and conceptual problems of measuring resilience, carried out within the "Reaching in... Reaching out" project (Vine, Hall, & Gardner, 2010).

In previous studies, the procedures used for assessing resilience were developed assuming that this personal characteristic is the outcome of the combination of traits or factors that determine it - e.g., positive emotional reactivity, sense of relationship, sense of mastery (Prince-Embury & Courville, 2008) - or a consequence of applying coping strategies, which results in positive adaptation to adversity (Leipold & Greve, 2009). The problem in both cases is that authors do not distinguish between causes and outcomes (Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003). So, it was concluded that no measurement instrument assessed the phenomenon itself - except for adults (Smith et al., 2008) and when using objective assessment measures (Bonanno,

2005) - as the conceptual and theoretical adaptation of many of the scales was questionable.

This matter could be solved if there were more direct measures of resilience, either based on behaviors that show positive adaptation (objective measures) or based on the perception of the usual way of reacting when facing adverse situations (subjective measures). Both measures would inevitably have their advantages and disadvantages, but both are necessary since they show different sides of resilience. As no measure covered the detected gap, Alonso-Tapia et al. (2013) decided to develop a questionnaire of subjective resilience. Psychometric characteristics of the questionnaire developed in the cited study were good, but obtained with Spanish students. So, it was decided to study whether it was possible to extrapolate its predictions to other cultures and contexts.

As in the original study, the main problem was to decide how to determine the validity of the new instrument. Several steps and strategies were possible. A first step was to determine the structural validity and the cross-validity of the questionnaire factor structure. This was done in the original study and in this one. In the present study, however, a multi-group analysis with two groups - Spanish and French students - was added to see whether the structure of the questionnaire was similar in both groups.

Beyond this analysis, several predictive analyses were carried out following the model shown in Figure 2.1. Given that the main research project focuses on the study of classroom motivational climate effects on motivation (Alonso-Tapia & Fernández-Heredia, 2008, 2009; Ames, 1992; Midgley et al., 2000), in the original study several hypotheses related to goal orientations (GO), resilience and classroom motivational climate, similar to hypotheses shown in Figure 2.1, were tested. Now, however, a change has been introduced.

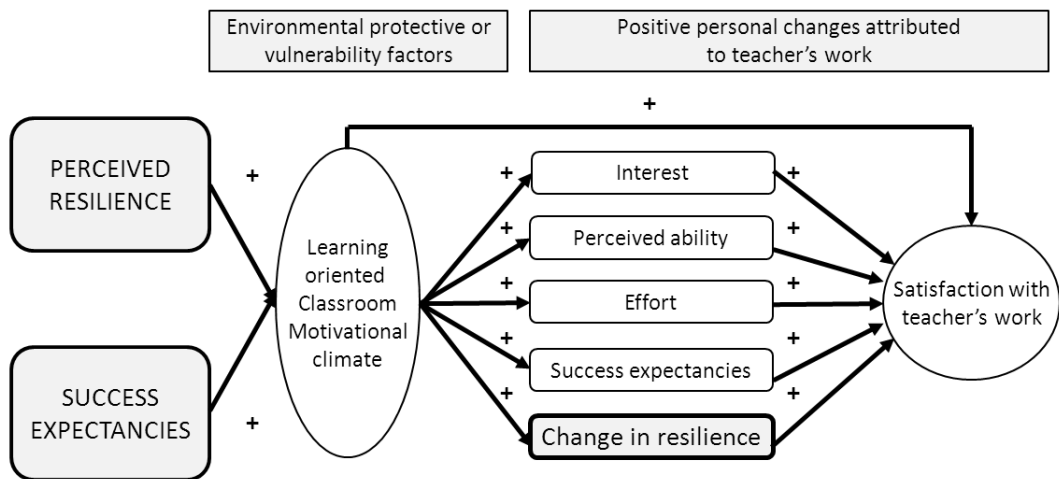


Figure 2.1. Hypothesized relations between resilience, success expectancies, classroom motivational climate and positive personal changes attributed to teacher's work.

Researchers have analyzed which variables configure the classroom motivational climate 'that most favors interest and effort to learn'. Alonso-Tapia and Pardo (2006), in line with Ames (1992), summed up several teaching strategies that might be organized around different points along the learning sequence - before, during and after instruction - and whose effectiveness for enhancing learning motivation had been highlighted by different research studies. Taking this work as a starting point, Alonso-Tapia and Fernández-Heredia (2008, 2009) developed the Classroom Motivational Climate Questionnaire (CMCQ). This questionnaire assesses the degree to which students express how the different teaching patterns favor a classroom motivational climate encouraging their motivation to learn. Given the nature of CMC, and taking into account results of previous studies, resilience (a) might act as moderator of perceived CMC, and (b) might be affected by CMC. Let's explain both things.

Firstly, according to Leipold and Greve (2009) and Good and Dweck (2006), positive coping strategies and mastery GO underlie resilience. So, the positive or negative perception of teaching patterns that define CMC might be mediated by resilience: if it is high, it is probable that students do not consider certain patterns as

negative as if it is low. The same can be said in relation to goal orientations. However, GO measures were not included in the model because of previous results suggesting co-linearity between GO resilience and success expectancies when predicting CMC (Alonso-Tapia et al., 2013).

Secondly, Alonso-Tapia and Fernández-Heredia (2008, 2009) showed that CMC scores predict the degree to which students' subjective changes in interest, effort, perceived ability, success expectancies and satisfaction are related to the way in which teachers conduct their classrooms. Being so, if CMC contribution to the changing of motivational variables is positive, it might be that CMC also predicts attribution of resilience changes to teacher work. Besides, if resilience mediates CMC perception, it is probable that *initial resilience* predicts the attribution of *change in resilience* also to teacher work.

Method

Participants

A total of 750 students from a private secondary school in Poitiers (France) participated in this study. There were 496 females and 254 males, distributed in different levels of secondary education, high school and vocational education. The age range for which the questionnaire was developed is that of the sample, that is, students from 14 to 23 years old (Mean: 17.09; *SD*: 1.59). The sample was randomly divided into three sub-samples with almost equal numbers of subjects. The first sample was used to carry out the initial analysis and the rest to cross-validate the results. Only subjects without missing values were used for the analyses.

Materials

In order to test the hypotheses, the following instruments were used:

- (1) *Subjective Resilience Questionnaire (SRQ)* (Alonso-Tapia et al., 2013), which was translated into French. This questionnaire has a general scale, *Subjective*

Resilience (SR), and three specific ones that assess the perceived degree of resilience when facing adverse events that students confront in their relationships with teachers (*resilience in front of teachers*, RT), with peers (*resilience in front of peers*, RP) and with family - parents - (*resilience in front of family*, RF). It includes positive and negative items such as: ‘My teachers sometimes tell me that what I do or say is not correct, without trying to understand what is it that I find difficult, but that doesn’t decrease my effort to learn’, ‘Sometimes my friends criticize me for not doing something well instead of trying to help me, but that doesn’t decrease my effort to improve myself’, ‘If my parents ignore me when I need them to help me with a problem, I get discouraged and stop striving to solve it’. The reliability indexes are: SR: $\alpha = .85$; RT: $\alpha = .74$; RP: $\alpha = .64$; RF: $\alpha = .65$.

(2) *The Classroom Motivational Climate Questionnaire* (CMCQ) (Alonso-Tapia & Fernández-Heredia, 2008, 2009). This questionnaire was designed to cover 16 kinds of teaching strategies or patterns that, according to the theoretical review, could affect the students’ motivation to learn. Two items were written to assess each pattern. To avoid acquiescence effects, one was positive and the other negative. Each item had to be answered in a five-point Likert scale, so the score of each pattern ranged from one to ten.

The questionnaire has only one scale, *Classroom Motivation Climate oriented to learning* (reliability $\alpha = .93$). This scale was used to test, first, whether resilience, as a more or less stable perceived personal characteristic, moderates the student’s perception of the classroom motivational climate; and second, to examine whether the degree to which students attribute resilience to teacher’s work depends mainly on classroom motivational climate or is moderated by

other variables such as previous subjective resilience - measured by the SRQ - or student's expectancies.

- (3) Six independent scales for assessing the *perceived teacher's role in changing student's resilience, interest, perceived ability, effort expenditure, success expectancies* and *satisfaction with teacher work* were also used. The perceived change in resilience scale (PCRS) has eight items and a reliability index $\alpha_{\text{PCRS}} = .83$. The following five scales (interest - INT; perceived ability - PAB; effort expenditure - EFF; success expectancies - SUC; satisfaction with teacher work - SAT) have three items and their reliabilities are: $\alpha_{\text{INT}} = .75$; $\alpha_{\text{PAB}} = .72$; $\alpha_{\text{EFF}} = .69$; $\alpha_{\text{SUC}} = .66$. Finally, the satisfaction scale has four items with reliability $\alpha_{\text{SAT}} = .72$. Table 2.1 includes item examples of these scales. They were used to examine whether the degree in which students attribute resilience and motivational changes to teacher work depends mainly on classroom motivational climate or on the potential moderating role of expectancies and general perceived resilience. All these scales had been developed and used in previous studies (Alonso-Tapia et al., 2013; Fernández-Heredia, 2009).
- (4) A scale for assessing *expectancies* ($\alpha = .80$). This scale belongs to the second part of the *Motives and expectancies questionnaire (MEVA3)* (Alonso-Tapia, 2005).

Table 2.1. Item examples of scales assessing the role attributed to teacher in perceived resilience and motivational change.

<i>Scale</i>	<i>Item example</i>
<i>Resilience</i>	<i>The way this teacher helps us to cope with difficulties makes me not to discourage when I experience failures in my studies.</i>
<i>Interest</i>	<i>If I am very interested in this subject, it is due to the way we work with this teacher.</i>
<i>Perceived ability</i>	<i>A good quality of this teacher is that he/she makes me feel able enough to learn by myself.</i>
<i>Effort</i>	<i>Thanks to the way this teacher encourages me, I try to learn more and more.</i>
<i>Success expectancies</i>	<i>Taking into account the way in which this teacher teaches, it is unlikely for me to get good marks. (-)</i>
<i>Satisfaction</i>	<i>If one could choose the teacher, I would suggest my peers to choose my own one without doubting it at all.</i>

Procedure

Data were gathered at the end of the first term. Students filled in the questionnaires in one session of 50 minutes. Before starting, the researcher instructed them how to fill them in, and he/she stayed there during the process. When items referred to parents, they were told to think about the people who filled that role if they did not live with their real parents. They answered the SRQ, and then each group of students was instructed to fill in the CMCQ and the final scales in relation to the teacher of one of the academic subjects selected randomly. Once the questionnaires were filled, confirmatory factor analyses were carried out in order to test how the data fit the model, and to compare the data of France to the original studies carried out with the Spanish sample.

Data analyses

In order to determine whether the SRQ factorial structure was similar to the structure originally found by Alonso-Tapia et al. (2013), four kinds of confirmatory factor

analysis (CFA) were carried out. First, the structure suggested by the original work of Alonso-Tapia et al. (2013) was used as baseline model. This structure assumed the existence of three intermediate factors from which later the scales RT, RP and RF were derived. It was used to estimate the model-fit by means of confirmatory techniques (CFA-1) using the AMOS program (Arbuckle, 2003). Estimates were obtained using the maximum likelihood method after examining whether data were adequate for the analysis. In order to assess model-fit, absolute fit indices (χ^2 , χ^2/df , GFI) and non-centrality fit indices (CFI, RMSEA) were used, as well as criteria for acceptance or rejection based on the degree of adjustment described by Hair, Black, Babin, Anderson and Tathan (2006).

Second, two multi-group confirmatory analyses were carried out in order to cross-validate the results of the previous analysis, the first one using the three French sub-samples (CFA-2), and the second one using the Spanish sample (N = 471) and a French sub-sample composed of those students whose age was similar to those in the Spanish sample (from 14 to 17 years old; N = 475) (CFA-3). The proposed theoretical model was used as a base for comparing without restrictions the equality of parameters between samples. Several theoretical models were compared to this one, in which for the different sets of parameters equality between groups prevailed. The relative fall in the goodness-of-fit was assessed by means of the difference in the chi-square statistic between the model with imposed restrictions and the model without them.

Third, with the aim of testing whether gender had a significant effect on the structure of the resilience questionnaire, the French sample was divided by gender into two sub-samples, and a re-estimation by groups was carried out (CFA-4).

Fourth, in previous unpublished studies it was found that answers to the SRQ might be sensitive not only to the source of adversity - parents, teachers and peer actions -. It might also be the case that positive and negative questions elicited different response

patterns because people can react in a different way to life and questionnaire situations depending on whether these situations are framed in a positive or negative way. So, a last analysis was carried out (CFA-5) to test whether the base model was adequate when eliminating the effect of variance due to item formulation. To achieve this objective this study followed the proposal of Gustafsson and Åberg-Bengtsson (2010). These authors suggest that it is possible to use a combination of hierarchical and nested models to disentangle sources of variance when trying to measure a construct. Hence, two additional factors, one corresponding to positive and the other one to negative items, and assumed to be uncorrelated with resilience, were introduced in the basic model in order to discriminate the variance due to the positive or negative item formulation (measurement factors) from other sources of resilience - teachers, peers or parents - and from the general resilience construct itself.

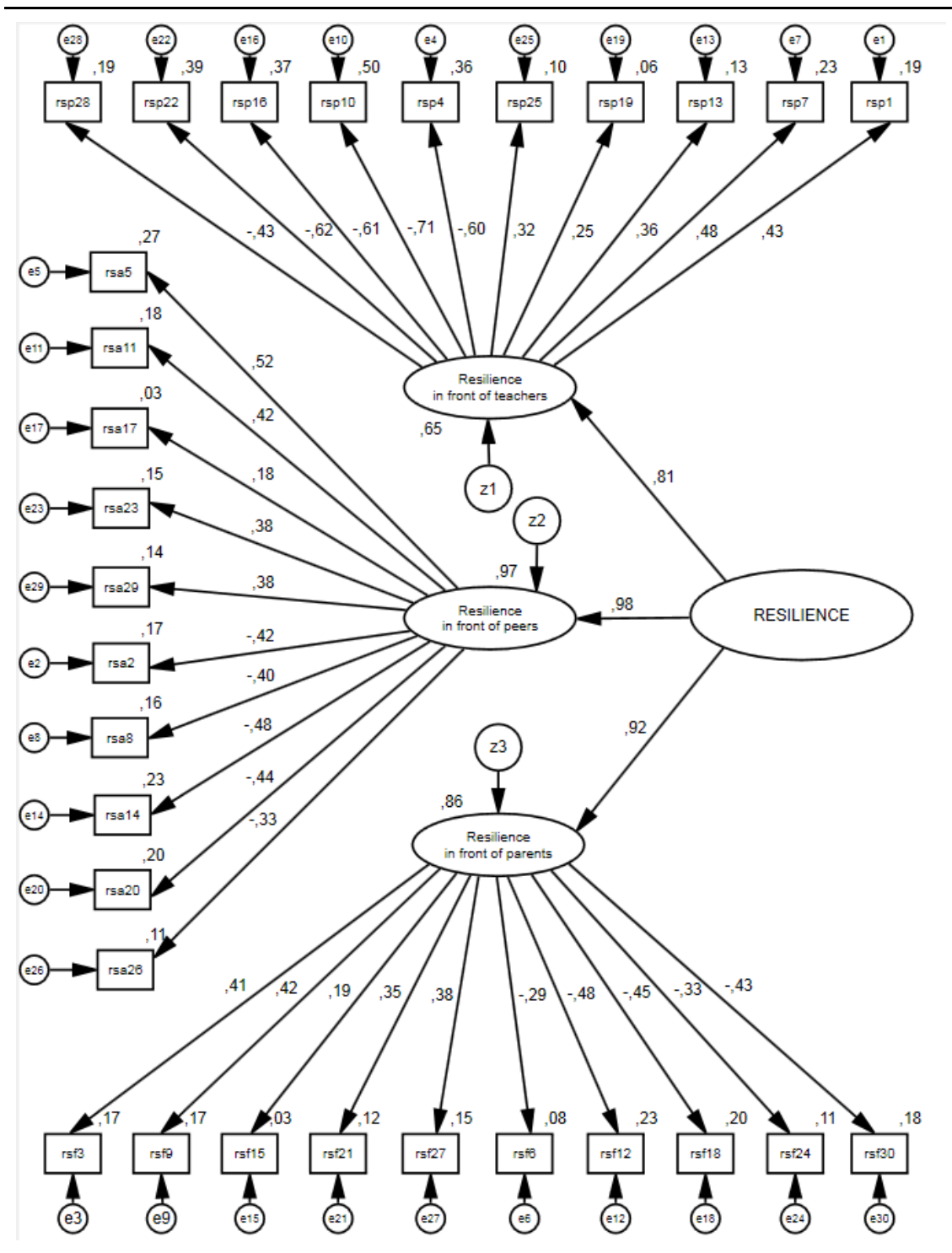
Fifth, the reliability of the scales of SRQ was calculated for the French sample.

Sixth, in order to get initial information on the external validity of the SRQ, correlation analyses between scores on all the general scales used in the study were computed using the whole sample. Moreover, three regression analyses were carried out using the direct method, as it allowed selecting the independent variables whose influence on the dependent variables wanted to be tested. In the first one, subjective resilience and expectancy scores were used as predictors, and the score in the CMCQ as the criterion to test the hypothesis. In the second, expectancies, resilience and perceived classroom motivational climate were used as predictors, and the scales assessing the attribution of perceived changes in resilience and in the different variables related to motivation to teacher's work, as criteria. Finally, in the third regression analysis expectancies, resilience and perceived classroom motivational climate were used again as predictors plus the perceived change in ability, interest, effort, success expectancies, resilience, and satisfaction with teacher's work, as criteria.

Results

Initial confirmatory factor analysis

Figure 2.2 shows the standardized estimates of the confirmatory model and Table 2.2 the unstandardized estimates and the standard errors. All the estimated loadings (λ) were significant ($p < .001$). Table 2.3 shows the fit statistics of the proposed model (CFA-1). Chi-square statistic was significant, probably due to the size of the sample (Hair et al., 2006), but the ratio χ^2/df ($\chi^2/df = 2.68 < 5$) and the RMSEA statistic (root mean square error of approximation = $.06 < .08$) were well inside the limits that allow the model to be accepted. The remaining fit indices were slightly below the standard limits of acceptance: GFI (*goodness-of-fit index*) = $.81$, and CFI (*comparative fit index*) = $.67$. So, it becomes necessary to consider the results of the cross-validation analyses in order to decide whether the model is well estimated or not.



$r_{\text{teachers-peers}}: .560$; $r_{\text{teachers-parents}}: .525$; $r_{\text{peers-parents}}: .603$

Figure 2.2. RSQ: Initial confirmatory standardized solution and correlations between first-order factors.

Table 2.2. CFA of base model. Regression weights.

			Estimate	S.E. ¹			Estimate	S.E.	
R-Teacher	<---	Resilience	1.000		rsp23	<---	R-Peers	.739***	.126
R-Peers	<---	Resilience	1.357***	.223	rsp29	<---	R-Peers	.697***	.120
R-Family	<---	Resilience	1.073***	.203	rsp2	<---	R-Peers	-.941***	.150
rst25	<---	R-Teacher	.653***	.136	rsp8	<---	R-Peers	-.878***	.146
rst7	<---	R-Teacher	1.020***	.161	rsp14	<---	R-Peers	-.957***	.137
rst1	<---	R-Teacher	1.000		rsp20	<---	R-Peers	-.850***	.130
rst19	<---	R-Teacher	.570***	.142	rsp26	<---	R-Peers	-.691***	.133
rst13	<---	R-Teacher	.741***	.141	rsf3	<---	R-Family	1.000	
rst22	<---	R-Teacher	1.362***	.191	rsf9	<---	R-Family	.968***	.179
rst4	<---	R-Teacher	1.647***	.234	rsf15	<---	R-Family	.507**	.170
rst10	<---	R-Teacher	1.729***	.230	rsf21	<---	R-Family	.694***	.143
rst28	<---	R-Teacher	-.905***	.153	rsf27	<---	R-Family	.850***	.165
rst16	<---	R-Teacher	1.471***	.207	rsf6	<---	R-Family	-.702***	.166
rsp5	<---	R-Peers	1.000		rsf12	<---	R-Family	1.196***	.204
rsp11	<---	R-Peers	.718***	.114	rsf18	<---	R-Family	1.047***	.186
rsp17	←-	R-Peers	.343**	.116	rsf24	←-	R-Family	-.779***	.166
rsp23	←-	R-Peers	.739***	.126	rsf30	←-	R-Family	1.047***	.190

S.E.: Standardized Error; R-Teacher: resilience in front of teachers (scale); R-Peers: resilience in front of peers (scale); R-Parents: resilience in front of family (scale); rst: resilience in front of teachers (plus item number); rsp: resilience in front of peers (plus item number); rsf: resilience in front of family (plus item number).

Table 2.3. Goodness-of-fit statistics for CFA of base model, of multi-group cross-validation analysis (CVA), and of multi-group analysis by gender.

	χ^2	<i>Df</i>	<i>P</i>	χ^2/df	GFI	CFI	RMSEA
CFA-1 (N=375) Base line model	1081.79	403	.000	2.68	.81	.67	.06
CFA-2. Cross V (N: 375, 375)	2084.44	806	.000	2.55	.83	.70	.04
CFA-3. France-Spain (HS*) (N: 475, 471)	2241.99	806	.000	2.78	.84	.70	.04
CFA-4 Males-Females (N: 254, 496)	2131.49	806	.000	2.64	.83	.68	.04

*HS: High School

Multi-group cross-validation analyses (CFA-2)

In this case, again chi-square statistic was significant, probably due to the sample size, but the adjusted ratio χ^2/df ($\chi^2/df = 2.55 < 5$) and the RMSEA (root mean square error of approximation = $.04 < .08$) were well inside the limits which allow the model to be accepted. However, GFI and CFI fell again slightly short on the usually accepted cut-off points (see Table 2.3, CFA-2). Nevertheless, comparison statistics included in Table 2.4 show that fit is not reduced significantly even if restrictions on measurement weights, structural weights, structural covariances, structural residuals and measurement residuals are imposed. Therefore, it may be concluded that the model is well estimated and that it should not be rejected. These results are similar to those obtained in the Spanish study.

Table 2.4. CFA-2 Cross-validation of the model using multi-group analyses with two samples. Chi-square differences for model comparison against the unconstrained multi-sample model.

Analysis	Model	<i>DF</i>	Chi-square	<i>P</i>
CFA-2: CVA	Measurement weights	27	22.519	.711
	Structural weights	29	24.820	.688
	Structural covariances	30	25.221	.714
	Structural residuals	32	25.397	.790
	Measurement residuals	62	45.284	.945

Cross-validation analyses France-Spain

The second multi-group analysis compares the results of both countries obtained from similarly aged individuals. Regarding fit indices, χ^2/df and the statistic RMSEA were inside the acceptable limits. However, once more GFI and CFI fell slightly short on the usually accepted cut-off points (Table 2.3, AFC3). Therefore, it becomes again necessary to consider the results of the cross-validation analyses to decide if the model is well estimated. In that case the results for French and Spanish models are not equal. If restrictions on measurement weights are imposed, then $\chi^2_{(df = 27)} = 67.40, p > .001$. So, in order to ascertain what caused this difference it was decided to use the Z statistic (Clogg, Petkova, & Haritou, 1995), which tells whether the difference between regression weights is significant. In *most* cases in which differences between regression weights were significant ($Z > +1.96; Z < -1.96$), to assume the item content implies recognizing discouragement or lack of resilience (weights linking items 16, 22, 28 to RT, 8 and 26 to RP and 6, 12 and 24 to RF). Moreover, in *all* cases in which a significant difference occurred (weights just referred and those linking items 13, 19 and 25 to RT), weights were greater in the Spanish than in the French sample. Finally, no regression weight linking intermediate factors to SR reached significance.

Testing gender effects on questionnaire structure: multi-group analysis by gender (CFA-4)

The third multi-group analysis tests the validity of the structure identified as a function of gender. As can be seen again, fit indices χ^2/df and the RMSEA were inside the acceptable limits, although GFI and CFI fell slightly short of the acceptable cut-off points (Table 2.3, CFA-4 male/female). However, once more, statistics corresponding to model comparison showed that fit was not reduced significantly even if restrictions on measurement weights were imposed ($\chi^2_{(df = 27)} = 32.80, p = .204$). Therefore, it can be

concluded that the model is valid both for males and females, and so it should not be rejected. These results were similar to those obtained in the Spanish study.

Nested factor analysis to control positive or negative item frame effects

In this analysis (CFA-5), most of the estimated loadings (λ) relating observed variables to intermediate latent variables were highly significant ($p < .001$), as were those relating these variables to resilience (resilience in front of teachers: $\gamma_{11} = .56$, of peers: $\gamma_{12} = .88$, and of parents: $\gamma_{13} = .68$). The same happened with loadings (λ) relating negative items with the negative factor and positive items with the positive one. In this model, goodness-of-fit statistics were much better than in the base model. Chi-square statistic was significant, probably due to sample size, but the quotient $\chi^2/df = 1.82 < 5$ and $RMSEA = .04 < .08$ were again inside the limits that allow the model to be accepted. The remaining fit indices fell slightly short on the standard limits of acceptance, but nearer to them than in the basic model: $GFI = .89$; $CFI = .85$.

Reliability

Before studying the external validity of the SR, Cronbach- α coefficients were computed for this and the remaining scales used in the study. Results are shown in Table 2.5. The reliability index of SR was excellent (.85). The indices of the scales of the remaining questionnaires were good enough to be accepted for the aims of the study.

Table 2.5. Correlations and internal consistency of the scales^{1,2}.

<i>N</i> = 452	SE	SR	CMC	INT	PAB	EFF	SUC	PCR	SAT
Success expectancies (SE)	.70	.318**	.320**	.284**	.272**	.193**	.198**	.185**	.270**
Subjective Resilience (SR)		.84	.198**	.145**	.192**	.193**	.198** *	.207**	.183**
Classroom motivational climate oriented to learning (CMC)			.93	.694**	.677**	.625**	.686**	.643**	.767**
Interest attributed to teacher work (INT)				.74	.696**	.636**	.711**	.597**	.754**
Perceived ability attributed to teacher work (PAB)					.66	.639**	.686**	.615**	.727**
Effort disposition attributed to teacher work (EFF)						.59	.629**	.542**	.672**
Success expectancies attributed to teacher work (SUC)							.67	.635**	.746**
Perceived Change in Resilience Attributed to teacher work (PCR)								.87	.637**
Satisfaction with teacher work (SAT)									.80

¹ ** Correlations significant at 0.01 level; * Correlations significant at 0.05 level.

² Reliability indexes (α) corresponding to the present study are shown in the diagonal.

Correlation and regression analyses

Table 2.5 also shows the correlations between SR and the remaining scales used in the study. Several results deserve to be pointed out.

First, SR and CMC correlated positively and in a significant way. However, as shown by the regression analysis presented in Table 2.6, expectancies and not SR is the main predictor of the degree to which students perceived the CMC as learning oriented, though SR had a significant weight in this prediction. This result is similar to that obtained in the Spanish study, in which both variables predicted CMC scores in a significant way. However, it is different because in the Spanish sample SR predictive power (.370) was almost twice the predictive power of Expectancies (.204), just the opposite of what happened here.

Table 2.6. Regression analyses. Criterion: *Perceived Learning Classroom Motivational Climate (CMC)*¹.

Criterion variable	<i>R</i>	<i>R</i> ²	<i>P</i>	Predictors. Standardized Regression Coefficients	
				Resilience	Expectancies
Classroom Motivational Climate	.335	.226	.000	.107***	.286***

¹*** $p < .001$; ** $p < .01$; * $p < .05$; NS = Non significant.

Second, also as expected, CMC correlated in a significant way with the degree to which students attributed perceived changes in motivational variables and in resilience to the work of their teachers. SR correlated also in a significant way with the perceived change in resilience (see Table 2.7), and likewise contributed in a significant way to this result, as it is shown by the regression analysis presented in Table 2.7, a result not found in Spain. This result highlights the importance of creating a learning oriented CMC for favoring resilience improvement.

Table 2.7. Regression analysis. Criteria: *Change in resilience and different variables related to motivation attributed to teacher's work.*

Criterion variable	<i>R</i>	<i>R</i> ²	<i>P</i>	Predictors. Standardized Regression Coefficients		
				CMC	Resilience	Expectancies
Perceived change in Resilience	.650	.423	.000	.639***	.102**	NS
Perceived change in Interest	.697	.480	.000	.637***	NS	.073**
Perceived change in Ability	.681	.463	.000	.652***	NS	NS
Perceived change in Effort	.629	.396	.000	.602***	.064*	NS
Perceived change in Success expectancies	.690	.476	.000	.662***	.054*	NS

*** $p < .001$; ** $p < .01$; * $p < .05$; NS = Non significant.

Finally, perceived changes in all motivational variables and in resilience correlated as expected with satisfaction with teacher's work, and most importantly, as shown by the regression analysis presented in Table 2.8, all of them contributed in a significant and similar way, together with CMC, to students' satisfaction with teacher's work, reaching a very high value in the amount of explained variance ($R^2 = .74$). This result parallels the result obtained in the Spanish study.

Table 2.8. Regression analysis. Criterion: *Satisfaction* attributed to teacher's work¹.

<i>R</i>	<i>R</i> ²	<i>P</i>	Predictors: Standardized Regression Coefficients					CMC	Resilience	Expectancies
			Interest	Change in Perceived ability	Change in effort	Change in success expectancies	Change in resilience			
.860	.740	.000	.214***	.154***	.115***	.195***	NS	.280***	NS	NS

¹ CMC: Classroom motivational climate; *** $p < .001$; ** $p < .01$; * $p < .05$; NS = Non significant.

Discussion

The main objective of this article was to test the cross-cultural validity of the SRQ, a measure of subjective resilience for teenagers. What have the results highlighted?

First of all, the results obtained point out that the way subjective resilience is operationalized is valid not only in Spain but also in France, both for secondary education, high school and vocational education. Results showed, in France as in Spain, that the SRQ has a well estimated structure, and the results of the different CFAs - based on randomly or gender set groups - support this conclusion.

Second, our results have direct implications in relation to a fact pointed out by Luthar (2006). This author stated that resilience is not an 'all-or-nothing' phenomenon: people may be resilient in front of a specific type of adversity, but not when facing another one. Our results, especially when compared with the results obtained in the Spanish sample, support this point of view. According to both studies, it is acceptable to obtain a general index of resilience (RS). This means that even if resilience - as a phenomenon - may vary according to one kind of context or another, the adaptive or non-adaptive processes that generate resilience, or the lack of resilience, tend to generalize across harmful environments. This generalization involves the possibility that common specific processes underlie positive adaptation - resilience - when facing adversities in different contexts. However, the fact that there are three intermediate factors suggests that resilience in the three contexts they refer to - teachers, peers and family - does not manifest in a completely similar way. This fact was more obvious in Spain than in

France, as correlations between scales corresponding to the three factors were much lower (Spain: $r_{\text{teachers-peers}} = .10$; $r_{\text{teachers-parents}} = .11$; $r_{\text{peers-parents}} = .17$; France: $r_{\text{teachers-peers}} = .56$; $r_{\text{teachers-parents}} = .52$; $r_{\text{peers-parents}} = .60$). This fact reflects the need to learn how to adapt the general coping strategies underlying resilience to the specific demands of each context.

Third, two unexpected results deserve special consideration. First, most differences between Spanish and French are due to the fact that the answers of students of each culture do not converge with the same definition or regularity in recognizing that the situation included in specific items activates in them resilient or not resilient reactions: convergence of Spanish students is greater than that of French students. Second, this difference is greater for items whose content refers to a not-resilient reaction. These results imply that the nature of the adverse situation or the awareness of the way of reacting, or both things, is clearer for Spanish than for French students. This is a cultural difference that may be due - likely - to different educational practices and learning experiences that should be identified.

Fourth, SR and expectancies predict the motivational value that students attribute to the different teaching patterns that configure the CMC (hypothetical relations marked with + at the left of Figure 2.1), though the weight of SR in Spain (.370) is three times the weight of SR in France (.107). This difference might be due to differences just described between students in each country in the degree to which they perceived situations as adverse or in their awareness of their degree of resilience in front of adverse situations. This is obviously a supposition that should be investigated.

Fifth, a very important result is that students attribute to a very high degree their improvement in resilience - or the lack of it - to the degree to which teachers create a CMC oriented to learning (hypothetical relations marked with + in the center of Figure 2.1), an attribution that scarcely depend on previous SR. This result highlights the

importance of creating a learning oriented CMC for favoring resilience improvement, at least from the point of view of students. However, we are aware that this hypothesis is based on correlational data and so experimental studies are needed to support it.

Sixth, correlation and regression analyses have shown that ‘Satisfaction with teacher work’ depends mainly on CMC and on perceived change in motivational variables that, in turn, is attributed to CMC (hypothetical relations marked with + at the right of Figure 2.1). This result highlights again the importance of creating a learning oriented CMC.

Finally, from an applied point of view, the results point to the importance of assessing resilience and the strategies sustaining it not only as a general factor, but also in the context of specific kinds of adverse situations. If students’ resilience in front of family, teachers and peers actions that are responsible for adverse and stressful experiences is different, and if culture contributes also to such difference, it may be necessary to give different kinds of help to facilitate the acquisition of strategies that favor resilience in specific contexts. For this purpose, school psychologists need assessment instruments to determine the specific profile of subjective resilience, and the SRQ can be of help.

In summary, this paper has provided new evidence, obtained in a new cultural context, on the validity of the SRQ. Nevertheless, our study has some limitations. This is a subjective measure, and the process of validating it has centered on studying its relation with CMC and with the attribution of perceived changes in some motivational variables to teacher’s work. Thus, many questions arise that need to be answered. What ‘processes’ underlie subjective resilience? What does a teenager do that allows him/her to say he/she does not become discouraged when facing an adverse situation and that makes him/her different from the teenager who says that he/she does get discouraged? Could they be the motivational processes described by Good and Dweck (2006)? Or perhaps they could be the coping processes suggested by Leipold and Greve (2009)?

What personality factors are associated to it? Perhaps those suggested by Prince-Embury and Courville (2008)? These questions must have a place in the research agenda.

References

- Alonso-Tapia, J. (2005). Motivaciones, expectativas y valores-intereses relacionados con el aprendizaje [Motives, expectancies and values; learning-related interests]. *Psicothema*, *17*(3), 404-411.
- Alonso-Tapia, J., & Fernández-Heredia, B. (2008). Development and initial validation of the classroom motivational climate questionnaire (CMCQ). *Psicothema*, *20*(4), 883-889.
- Alonso-Tapia, J., & Fernández-Heredia, B. (2009). Un modelo para el análisis del clima motivacional de clase: Validez transcultural e implicaciones educativas [Classroom motivational climate: Cross-cultural validity and educational implications]. *Infancia y Aprendizaje*, *32*(4), 598-612. doi:10.1174/021037009789610368
- Alonso-Tapia, J., Nieto, C., & Ruiz, M. A. (2013). Measuring subjective resilience despite adversity due to family, peers and teachers. *The Spanish Journal of Psychology*, *16*(1), E19. doi:10.1017/sjp.2013.33
- Alonso-Tapia, J., & Pardo, A. (2006). Assessment of learning environment motivational quality from the point of view of secondary and high school learners. *Learning and Instruction*, *16*(4), 295-309. doi:10.1016/j.learninstruc.2006.07.002
- Ames, C. (1992). Classrooms: Goals, structures and student motivation. *Journal of Educational Psychology*, *84*(3), 261-271. doi:10.1037/0022-0663.84.3.261
- Arbuckle, J. L. (2003). *Amos 5.0 Update to the Amos User's Guide*. Chicago: Small Waters.

- Block, J. (2001). Millennial contrarianism: The five-factor approach to personality description 5 years later. *Journal of Research in Personality*, 35(1), 98-107. doi:10.1006/jrpe.2000.2293
- Bonanno, G. A. (2005). Resilience in the face of potential trauma. *Current Directions in Psychological Science*, 14(3), 135-138. doi:10.1111/j.0963-7214.2005.00347.x
- Clogg, C. C., Petkova, E., & Haritou, A. (1995). Statistical methods for comparing regression coefficients between models. *The American Journal of Sociology*, 100(5), 1261-1293. doi:10.1086/230638
- Fernández-Heredia, B. (2009). *Desarrollo y validación de un cuestionario de clima motivacional de clase* (Unpublished Doctoral dissertation. Universidad Autónoma de Madrid).
- Good, C., & Dweck, C. S. (2006). A motivational approach to reasoning, resilience and responsibility. In R. Sternberg, & R. Subotnik (Eds.), *Optimizing Student Success in School With the Other Three Rs: Reasoning, Resilience, and Responsibility* (pp. 39-56). Charlotte, NC: Information Age Publishing.
- Gustafsson, J. E., & Åberg-Bengtsson, L. (2010). Unidimensionality and interpretability of psychological instruments. In S. E. Embretson (Ed.), *Measuring psychological constructs: Advances in model-based approaches* (pp. 97-121). Washington, DC: American Psychological Association.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tathan, R. L. (2006). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson-Prentice Hall.
- Kobasa, S. C., Maddi, S. R., & Kahn, S. (1982). Hardiness and health: A prospective study. *Journal of Personality and Social Psychology*, 42(1), 168-177. doi:10.1037/0022-3514.42.1.168
- Leipold, B., & Greve, W. (2009). Resilience: A conceptual bridge between coping and development. *European Psychologist*, 14(1), 40-50. doi:10.1027/1016-9040.14.1.40

- Luthar, S. S. (2006). Resilience in development: A synthesis of research across five decades. In D. Cicchetti, & D. J. Cohen (Eds.), *Development psychopathology: Risk, disorder and adaptation* (2nd ed., pp. 739-795). New York: Wiley.
- Luthar, S. S., & Brown, P. J. (2007). Maximizing resilience through diverse levels of inquiry: Prevailing paradigms, possibilities, and priorities for the future. *Development Psychopathology*, *19*(3), 931-955.
<http://dx.doi.org/10.1017/S0954579407000454>
- Masten, A. S. (2007). Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology*, *19*(3), 921-930.
<http://dx.doi.org/10.1017/S0954579407000442>
- Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *American Psychologist*, *53*(2), 205-220. doi:10.1037/0003-066X.53.2.205
- Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., & Urdan, T. (2000). Manual for the patterns of adaptive learning scales. *Ann Arbor, 1001*, 48109-1259.
- Olsson, C. A., Bond, L., Burns, J. M., Vella-Brodrick, D. A., & Sawyer, S. M. (2003). Adolescent resilience: A concept analysis. *Journal of Adolescence*, *26*(1), 1-11.
[http://dx.doi.org/10.1016/S0140-1971\(02\)00118-5](http://dx.doi.org/10.1016/S0140-1971(02)00118-5).
- Prince-Embury, S., & Courville, T. (2008). Measurement invariance of the resiliency scales for children and adolescents with respect to sex and age cohorts. *Canadian Journal of School Psychology*, *23*(1), 26-40.
<http://dx.doi.org/10.1177/0829573508316590>
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E. M., Christopher, P. J., & Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*, *15*(3), 194-200. doi:10.1080/10705500802222972

Ungar, M. (2005). *Handbook for working with children and youth: Pathways to resilience across cultures and contexts*. Thousand Oaks, CA: Sage.

Vine, C., Hall, D., & Gardner, S. (2010). *Resilience... Successful Navigation Through Significant Threat*. Child & Family Partnership: Reaching IN... Reaching OUT.

Windle, G., Bennet, K. M., & Noyes, J. (2011). A methodological review of resilience measurement scales. *Health and Quality of Life Outcomes*, 9(1), 1-18.

<http://dx.doi.org/10.1186/1477-7525-9-8>

CHAPTER III

Article 2. A model for assessing coping and its relation to resilience in adolescence from the perspective of “person-situation interaction”

A model for assessing coping and its relation to resilience in adolescence from the perspective of “person-situation interaction”

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Personality and Individual Differences

Abstract

The person-situation interaction model suggests that the nature of stressful situations moderates the activation of coping strategies and styles, and that this interaction affects resilience. To support these hypotheses, this study pursued two *objectives*, to develop and validate the *Person-Situation Coping Questionnaire for Adolescents (PSCQA)*, designed for assessing the “*person-situation*” interaction when using coping strategies, and to analyze the relationships between *coping styles (CS)* and *resilience (Rs)*. 1083 Spanish secondary education and high school students filled in the coping questionnaire, and a resilience one. Data fit analysis using confirmatory techniques (CFA & PALV) supported hypotheses concerning the bi-factor structural model including the moderator effect of the kinds of stressing situations on the use of coping strategies, and hypotheses concerning the relationship between the two coping styles identified - emotion-centered and problem-solving centered CS - and resilience. Results imply that CS predicts Rs, but also that the differential sensibility to each kind of adverse situation contributes to activate coping strategies in different degrees.

Keywords: coping strategies; coping styles; coping assessment; resilience; person-situation interaction.

Theoretical framework

Adolescence constitutes a complex moment in the life cycle, in which the young face numerous challenges derived, for example, from conflicts in the interpersonal relationships, from problems with parental attitudes, or from academic situations affecting their self-concept and sense of efficacy (Trivedi, 2015). Within this developmental stage, there are key situations in which personal resilience will mark his/her way of overcoming such challenges (Alonso-Tapia, Nieto, & Ruiz, 2013). However, *resilience*, a concept that refers to positive adaptation or recovery despite experiences of significant adversity (Luthar, 2006), is a phenomenon (Leipold & Greve, 2009) that may depend on dynamic psychological processes such as the use of coping strategies, and/or of personality factors (Masten, 2007). Therefore, in order to favor the development of resilience, it would be useful to know whether and how coping strategies and styles affect resilience. To contribute to this objective, the assumptions from which the study was designed are described next.

Coping

The increasing interest in studying coping strategies is the result of recognizing them as a particular way of responding to the different situations causing stress, as well as the result of understanding their positive role in mitigating the harmful effects of such situations (Folkman & Moskowitz, 2004). But what are we referring to exactly with the term “coping”?

Lazarus and Folkman (1984) defined coping as “those constantly changing cognitive and behavioral efforts that are developed in order to manage the external and/or internal specific demands that are appraised as exceeding the individual's resources” (p. 141). Therefore, while coping styles are the usual way in which people deal with stress, a style relatively stable, it follows from Lazarus and Folkman's statement that strategies

are situationally dependent, constantly changeable, though the tendency to use some of them with preference configures the style that a person uses to face daily-life problems.

It is a fact recognized by the scientific community that no strategy itself is better or worse than any other, and that the adaptability depends on the specific context or situation (Folkman & Moskowitz, 2004; Skinner, Edge, Altman, & Sherwood, 2003). Coping constitutes a purposeful process in which the person and the context constantly interact: individuals vary their coping patterns depending on the type of the problem to be solved and the circumstances thereof. According to Lazarus (2006), the activation of traits depends on environmental circumstances that are made functionally equivalent by the disposition or trait. In effect, the trait generates the expected reaction only in circumstances that are relevant to the trait. Due to this dependence, the coping process should not be divorced from the person who confronts the stressful situation, and from the situation itself, a perspective that any efficient measurement of coping strategies (CS) must take into account. Nevertheless, though there are many scales and questionnaires for assessing coping - Kato (2013) includes 47 examples - they have not been built from such perspective. Therefore, the first goal of this study is to develop a *person-situation coping questionnaire* (PSCQ).

First, as coping strategies are multiple, it is necessary to decide which strategies are the best candidates to be included in a PSCQ. The meta-analysis by Kato (2013) has shown that some of the strategies included in coping scales have good predictive power for outcomes coherent with the nature of the CS. These strategies are shown in Table 3.1.

Therefore, it was decided to include these strategies in the questionnaire. However, to validate it, it is also necessary to hypothesize how such strategies can be grouped to define coping styles. Different dimensions have been proposed (Skinner et al., 2003). A distinction widely accepted is that of Lazarus and Folkman (1984) between *problem-*

solving focused and *emotion-focused* coping (*PSFC* and *EFC*). The use of one or another would initially depend on the control over the situation. Coping focused on the problem aims to handle or alter it, whereas coping focused on emotions implies methods for regulating the emotional response to the problem. After examining the content of the kinds of strategies selected for this study on the base of Kato's (2013) analysis, it can be hypothesized that the strategies that correlate positively with *well-being* can be considered as *problem-focused*, whereas the strategies that correlate positively with negative affect are *emotion-focused*, as shown in Figure 3.1, right half.

Second, as coping strategies may change depending on the situation, a measurement instrument that allows assessing the power of the situation for activating or inhibiting coping strategies is necessary. Lazarus and Folkman (1984) pointed out that some strategies are more stable through various stressful situations, whereas others are more related to particular contexts. So, it has been decided to study the effect of five different kinds of situations that can cause stress to adolescents (Trivedi, 2015): problems “with peers due to my own fault”, “with parents”, “with teachers”, “with peers because of their fault”, and “problems of study and achievement”.

The model is shown in Figure 3.1. Two of the strategies are supposed to load on the two coping styles because items in the questionnaire could have two interpretations. *Rumination* could imply lack of decision for action (Kuhl, 1994), which is negative, or required reflection for solving a problem, which is positive. In the same way, *thinking avoidance* could imply that the person does not deal with the problem at all, which is negative, or that he/she avoids it only after trying to solve the problem repeatedly without achieving any success.

Resilience

A second goal of this study is to analyze the relationship between resilience and coping. To achieve this goal it is necessary to consider, first, the kind of instrument to

be used and the assumptions supporting it, and second, the kind of relation between resilience and copying that can be expected in adolescents.

Table 3.1. *Strategies in coping scales with best predictive power for outcomes coherent with the nature of coping.*

Main strategies that correlate positively with <i>well-being</i>	Correlation
Active coping and planning (focus on problem solution - PS)	r = .25
Positive reinterpretation and growth (positive thinking - PT)	r = .32
Seeking social support, instrumental or emotional (help seeking - HS)	r = .24
Acceptance (avoiding to think on the problem when unsolvable - TA)	r = .18
Main strategies that correlate positively with <i>negative affect or general distress</i>	Correlation
Self-distraction (rumination and coping avoidance - RM) with negative affect	r = .38
Behavioural disengagement (isolation and coping avoidance - IS) with negative affect	r = .40
Focus on and venting of emotions (emotional expression - EE) with negative affect	r = .28
Self-blame (SB) with general distress	r = .43

First, though there are several instruments designed for assessing resilience (Windle, Bennet, & Noyes, 2011), most of them do not have adequate psychometric properties; others do not assess resilience conceived as positive adaptation or recovery despite experiences of significant adversity (Luthar, 2006), but rather personal characteristics related to it; and others are valid, but for adult subjects. Fortunately, Alonso-Tapia et al. (2013) have shown the conceptual and empirical validity of the Subjective Resilience Questionnaire (SRQ) for adolescents. Therefore, it was used for this study.

Second, Davey, Eaker and Walters (2003) highlighted that most coping research on adolescents does not support the assertion made by many researchers stating that resilient teenagers will demonstrate better coping skills as compared to those less resilient. This conclusion may be due to the fact that studies on coping do not always

seem to be well integrated with other research that examines children's reactions to adversity and stress (Eisenberg, Fabes, & Guthrie, 1997). Perhaps the relationship coping/resilience is not an all or none question, but an issue that depends on the kinds of situations and of strategies used for studying it, a problem that this study deals with.

Summarizing, from the ideas discussed, two are the main hypotheses to be tested. The first one has to do with the structural validity of the PSCQA: it was expected that the fit of the structural model would be good enough to be accepted. If it were the case, it would show the possibility of studying the systematic effects of the different kinds of stressful situations in the activation of coping strategies. The second hypothesis relates to concurrent/predictive validity. It was expected that, though moderated by the kind of stressful situation, the higher the scores in problem-solving centered coping, and the lower the scores in emotion-centered coping, the higher the resilience would be.

Method

Participants

A total of 1078 Spanish students, 585 boys and 493 girls, from three public and one charter high schools took part in the study. Two of the schools were settled in rural areas, whereas the other two pertained to urban areas. Ages were comprised between 12 and 18 years (Mean: 14.10; SD: 1.69). By educational stages, 412 belonged to the first cycle of secondary school (ages 13-14), 452 to the second cycle (ages 15-16) and 214 were high school students (ages 17-18).

Materials

In order to test our hypotheses, the following instruments were used.

Person-Situation Coping Questionnaire for Adolescents (PSCQA)

This questionnaire, designed for this study, allows assessing to what extent the coping strategies used by adolescents generalize to different situations or vary depending on the kind of adverse situation. It is composed of 40 items, which make

reference to eight different kinds of coping strategies (Rumination, Thinking avoidance, Self-isolation, Help-seeking, Look for problem solution, Emotional expression, Self-blaming, Positive thinking), and to one of five adverse situations (“problems with peers due to my own fault”, “problems with parents”, “problems with teachers”, “problems with peers because of their fault”, and “problems of study and achievement”). A sample of items measuring one of the situations is shown in Table 3.2. It is expected that these strategies can be grouped into the two general categories or coping styles described by Lazarus (2006). Items were answered on a 5-point Likert scale, in which the students determined the degree of agreement with the content.

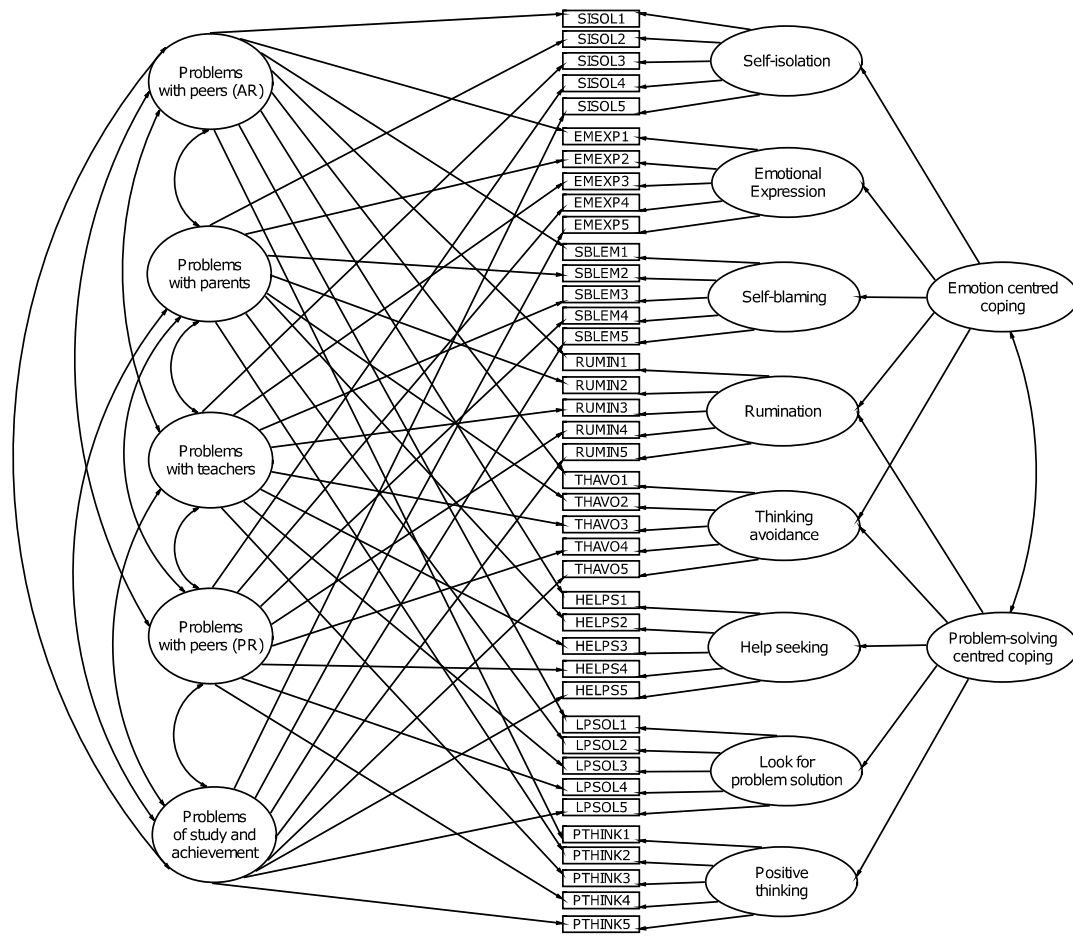


Figure 3.1. PSCQA basic bi-factor model.

Subjective Resilience Questionnaire (SRQ)

This questionnaire, developed by Alonso-Tapia et al. (2013), has a general scale (SR) and three specific ones that assess the perceived degree of resilience when facing adverse events that students confront in their relationships with teachers (RT), with peers (RP) and with family - parents - (RF). It includes positive and negative items such as: “My teachers sometimes tell me that what I do or say is not correct, without trying to understand what is it that I find difficult, but that does not decrease my effort to learn”, “Sometimes my friends criticize me for not doing something well instead of trying to help me, but that doesn't decrease my effort to improve myself”, “If my parents ignore me when I need them to help me with a problem, I get discouraged and stop striving to solve it”. The reliability indexes of each scale are: SR: $\alpha = .85$, RT: $\alpha = .74$, RP: $\alpha = .64$, and FR: $\alpha = .65$.

Table 3.2. PSCQA Sample of Items for the situation “Problems with peers due to my own fault”

When I have an important problem with a **peer due to something I have done and which she/he did not like:**

I usually *stay thinking about* what I have done, often wishing it had not happened.

I try to *think in other things* or to do something that helps me not to think about the problem.

I usually *isolate myself* to avoid talking with anybody about what happens to me.

I usually *talk about it with someone else* to pour my heart out and to get help from him/her.

I try to seek by myself the way *to solve the problem*.

I act without thinking about it, *letting my feelings come out*.

I *blame myself* for not thinking before acting.

I usually *think positively*, trying to learn from what has happened to avoid it to happen again.

Procedure

The University Ethical Committee approved the study. The school, parents and students granted their informed consent and assent. Moreover, the questionnaires included a code to identify the questionnaires that belonged to a same student, but anonymity was preserved. Students filled in the questionnaires in 50 minute sessions, distributed into the groups and courses to which they belonged. One of the researchers, present during the completion of the questionnaires, provided the different groups with precise instructions to fill in the questionnaires.

Once the data were collected, the following analyses were carried out to determine the factorial and predictive validity of the *Person-Situation Coping Questionnaire for Adolescents* (PSCQA).

First, several confirmatory factor analyses (CFA) were performed. The structure derived from theoretical considerations, that include eight coping strategies and two coping styles, was used as baseline model to be estimated with confirmatory techniques (CFA-1) using the AMOS software. Estimates were obtained using the maximum likelihood method. Absolute fit indexes (χ^2 , χ^2/df , GFI), relative fit indexes (IFI) and non-centrality fit indexes (CFI, RMSEA) were used to assess model-fit, as well as criteria for acceptance or rejection based on the degree of adjustment described by Hair, Black, Babin, Anderson and Tathan (2006). Besides, since each of the items of the PSCQA questionnaire refers not only to one coping strategy but also to a specific adverse situation, the model shown in Figure 3.1 was tested carrying out a bi-factor CFA (CFA-2) (Holzinger & Swineforth, 1937).

Secondly, the reliability of each specific PSCQA scale and of the general one was obtained (Cronbach α).

Finally, in order to know to what extent the coping styles included in the model predict resilience, a path analysis with latent variables (PALV) was performed. Estimates were obtained using the same indexes and criteria as that for CFA-1.

Results

Initial confirmatory factor analysis

Figure 3.2 shows the standardized estimates of the confirmatory model as well as the squared multiple correlations. All estimated weights (λ) were significant ($p < .001$). As for the fit statistics obtained for the proposed model (CFA-1), chi-square statistic was significant ($\chi^2 = 2431.53$, $p < .001$), probably due to the sample size (Hair et al., 2006), but the ratio χ^2/df ($\chi^2/df = 3.33 < 5$) and the RMSEA adjustment index (RMSEA = .04) were well inside the limits that allowed the model to be accepted. The remaining indexes (GFI = .89; IFI = .82; CFI = .82) fell short of the standard limits of acceptance. This is not a completely unexpected result, as it was expected that the kind of adverse situation would moderate the results.

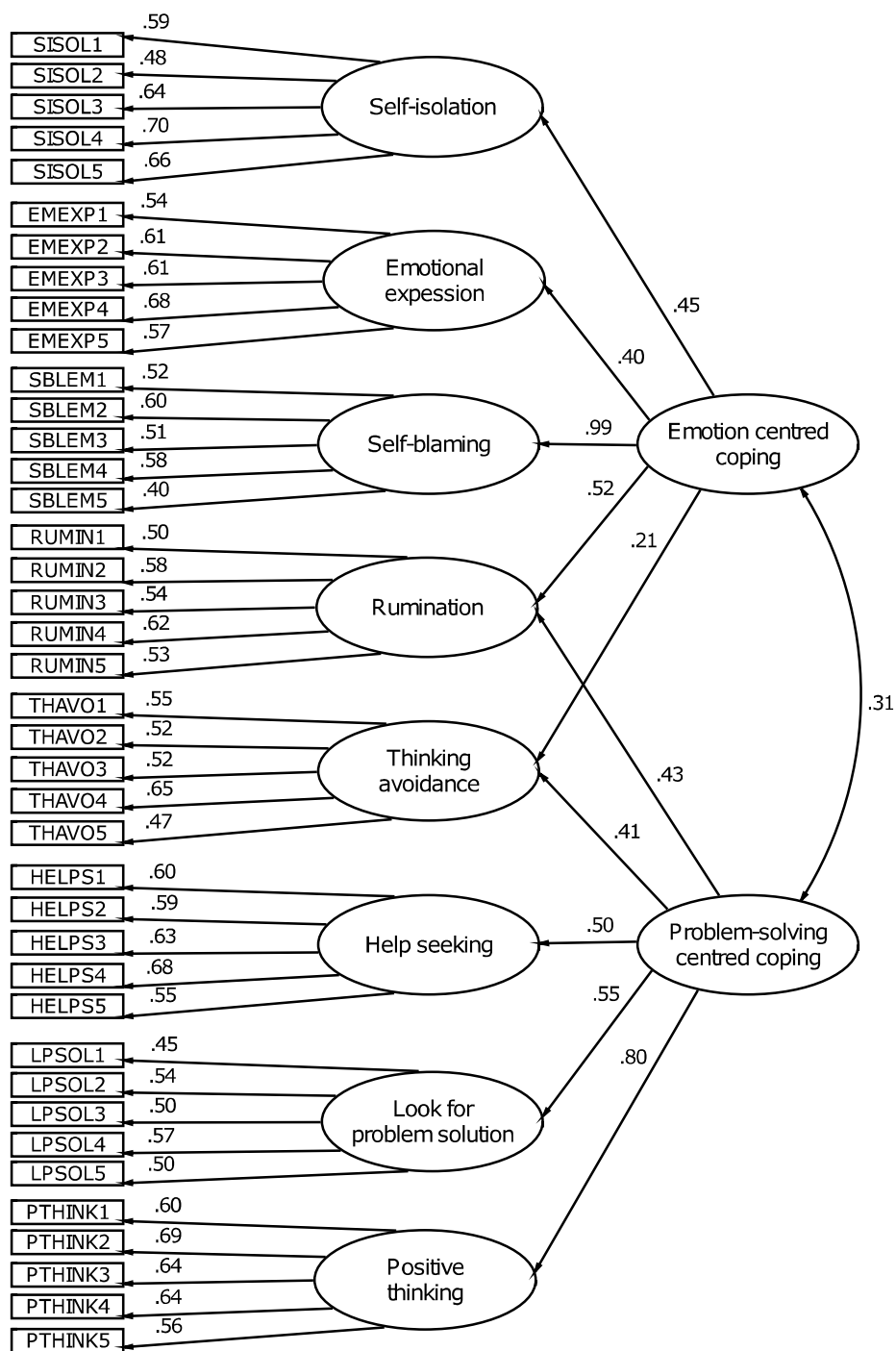


Figure 3.2. PSCQA. Hierarchical model. Confirmatory standardized solution. (Includes: measurement and structural weights, and correlations of estimates).

Bi-factor confirmatory factor analysis

Figure 3.3 shows the standardized estimates of the *bi-factor confirmatory model* along with squared multiple correlations.

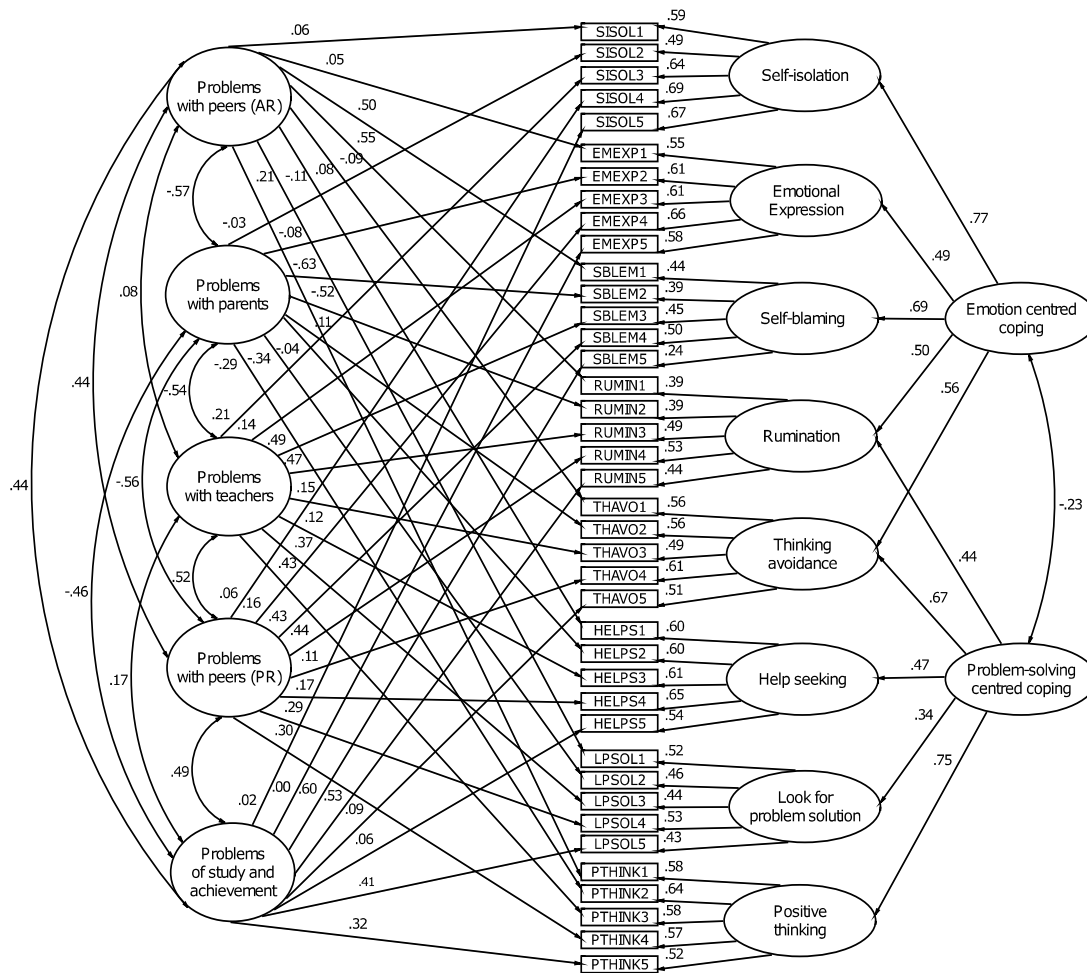


Figure 3.3. PSCQA bi-factor model confirmatory standardized solution: (Includes: measurement and structural weights, and correlations of estimates).

As for the fit statistics, again chi-square was significant ($\chi^2 = 1533.33$, $p < .001$), probably due to the sample size, but the ratio χ^2/df ($\chi^2/df = 2.25 < 5$) and the remaining fit indexes were well inside the limits that allowed the model to be accepted: GFI = .93, IFI = .91, CFI = .91, RMSEA = .03. As expected, data fit better the bi-factor model, which captures the person-situation interaction, than the hierarchic model that only refers to coping strategies and styles. Besides, though not included in the figures to improve their readability, if measurement weights for each item were squared, a comparison of R^2 for each of them between the initial CFA (Figure 3.2) and the bi-

factor CFA (Figure 3.3) would show that, in this second case, the amount of variance explained has increased in many cases to a considerable degree.

All the weights (λ) related to coping strategies and styles were significant ($p < .001$). As for the weights related to each situation (see Table 3.3), most of them, but not all, were significant. These results have the following implications. First, significant weights imply that when the students answer an item in which the coping strategy refers to the particular situation involved, they differ in the degree to which they pay attention to the situation, showing a differential sensibility to it. Second, non-significant weights imply that the situation does not systematically activate in a different way the coping strategy referred to in the item. Third, because of both implications, it can be concluded that the differences in significance imply that the situation seems to act as a condition for assuming to a greater or lesser degree the use of the strategy mentioned in the item. This effect happens more for a situation than for others and, in each situation, more for some students than for others.

Table 3.3. *PSCQA bi-factor CFA. Significance of weights relating situations to items assessing the use of each kind of coping strategy.*

Coping Item	Situational Dimension				
	Problems with peers (OR) ¹	Problems with parents	Problems with teachers	Problems with peers (PR)	Problems of study
Emotional expression	.05	-.08	.13	.16	.00
Self-blaming	.50***	-.62***	.49***	.43***	.60***
Self-isolation	.05	-.03	.21***	.06	.02
Rumination	.55***	-.52***	.47***	.44***	.63***
Thinking avoidance	-.09**	.11**	.15***	.11**	-.09**
Help seeking	.07*	-.04	.12**	.17**	.06
Look for problem solution	.11**	-.33***	.36***	.29***	.41***
Positive thinking	.21***	-.29***	.43***	.30***	.32***

¹OR= own responsibility, PR= peer's responsibility.

Reliability

Reliability indexes (Cronbach α) for each of the CS were .81. Indexes for scales corresponding to coping strategies were: Emotional expression: .74; Self-blaming: .64; Self-isolation: .75; Rumination: .68; Thinking-avoidance: .67; Help-seeking: .74; Look for problem-solution: .64; and Positive thinking: .75.

Path analysis with latent variables

In order to test the hypothesis according to which coping strategies and styles underlie the person's level of subjective resilience, a path analysis with latent variables was carried out. Figure 3.4 shows the standardized estimates of the confirmatory model, as well as the squared multiple correlations. All weights (λ) were significant ($p < .001$). Concerning the degree of fit, chi-square statistic was significant ($\chi^2 = 1869.60$, $p < .001$), probably due to the sample size, but the ratio χ^2/df ($\chi^2/df = 2.13 < 5$) and the remaining indexes (GFI = .93, IFI = .92, CFI = .92, RMSEA = .03) were well inside the limits that allowed the model to be accepted. However, in this case the main issue has to do with the regression coefficients quantifying the relation between CS and resilience scores: *EFC* regression weight was -.35, and *PSFC* regression weight was .47, that is, resilience depends in a significant way on both coping styles, but more on the second. The higher the *EFC*, the lower the resilience is, just the opposite of what happens with *PSFC*.

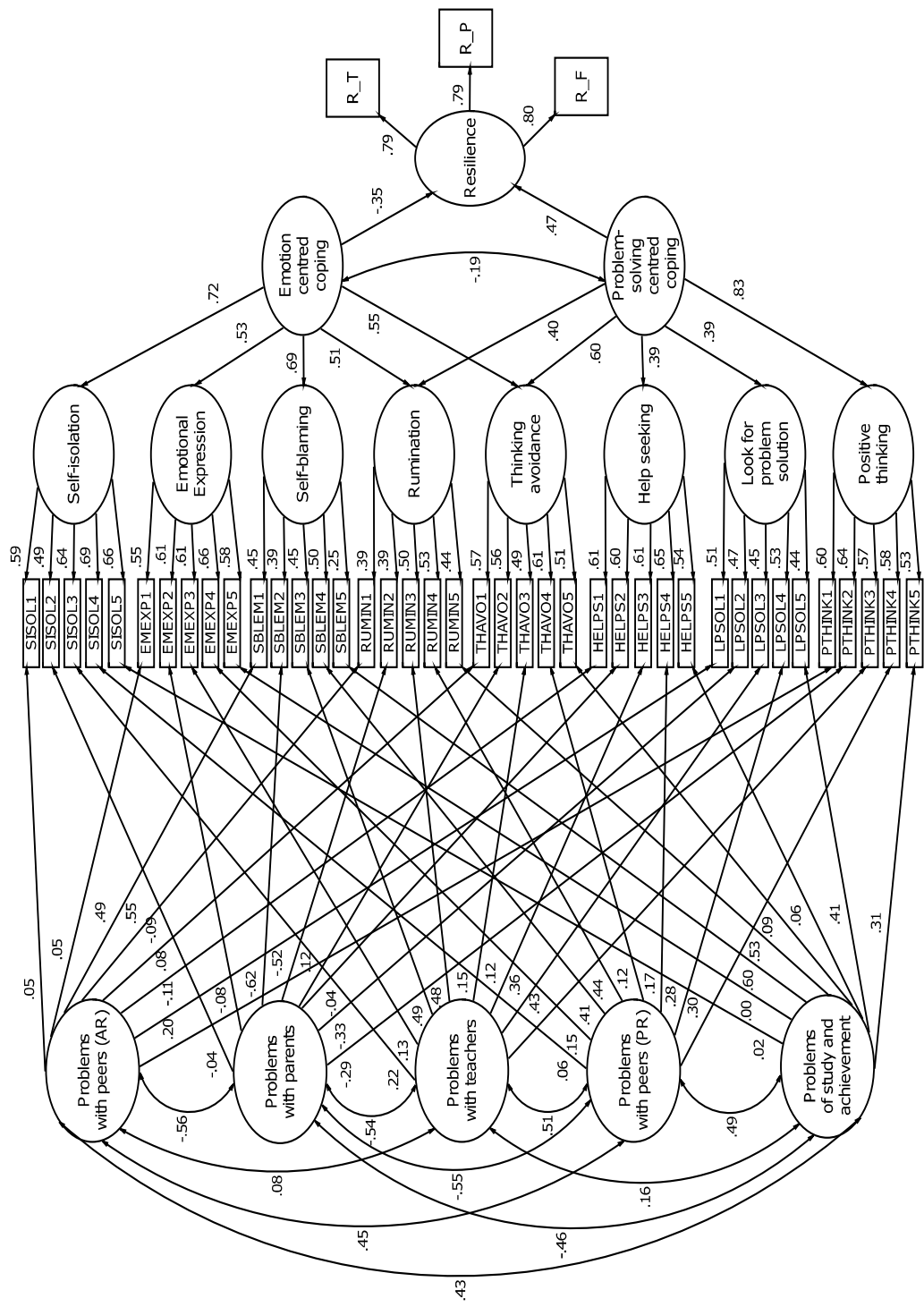


Figure 3.4. PSCQA Path Analysis with Latent Variables: (Includes: measurement and structural weights, and correlations of estimates).

Discussion

In relation with the initial objectives of the research, several findings and conclusions have to be pointed.

First, our results have provided evidence supporting the initial expectancies on the structure and reliability of the PSCQA. The coping strategies can be organized into two general styles that can be named, as initially proposed by Lazarus and Folkman (1984), *problem-focused* and *emotion-focused* coping.

Second, though our results support the structural and concurrent validity of the PSCQA, they do not imply that the only strategies that adolescents can use are the ones included in the PSCQA. According to Kato (2013) and Skinner and Zimmer-Gembeck (2007), there are many specific strategies that adolescents can use. However, the strategies included in the PSCQA seem to be the most important, as they are the ones with most predictive power. So, the use of this questionnaire can be a good starting point for assessing adolescent coping strategies and styles.

Third, the very low correlation found between both styles suggests that adolescents are not very consistent in adopting strategies corresponding to one style or the other. The same student might use one or another at different times and in different situations. So, without identifying the reasons of such variability, we cannot conclude that problem-focused and emotion-focused coping styles are two opposite types of coping, one for addressing problems, and the other one for regulating the emotions, at least in adolescence. It might be that in most stressing situations, depending on the aspect of the situation that the adolescent is envisioning, they were used in an alternate or combined way (Lazarus, 2006), a fact supported also by results related to our person-situation interaction model.

Fourth, the fact that *rumination* and *thinking avoidance* load on both coping styles raises a question about the meaning of these strategies. Traditionally, it had been considered that “*rumination*” and “*thinking avoidance*” were strategies that hinder solving the problem. However, the results of this study, in which they load highly on “*problem-focused coping*”, suggest that there are circumstances in which the fact of

thinking repeatedly about the problem may favor the finding of a solution and that, in a similar way, in other contexts “thinking-avoidance” may be adaptive.

Fifth, “*help-seeking*” is a strategy often situated in the area of emotion-focused coping. However, the results of this study show that, at least in adolescence, it seems to be located in the area of problem-focused coping, in line with the conclusions of Skinner and Zimmer-Gembeck (2007). This finding may be due to the fact that there are many reasons to seek support, the use of some of which tends to decrease whereas the use of others tends to increase.

Conclusions third, fourth and fifth underline the importance of the sixth, related to the implication of results shown by the bi-factor model. The significance of the regression weights linking items to situations varies to a great degree depending on the situation considered. This means that students differ systematically when they read the items related to a particular situation and point the degree to which they use the strategy mentioned. This fact occurs, for example, with self-blaming, rumination, thinking avoidance, looking for problem solution and positive thinking, which are positively activated by problems related to school (peers, teachers and study), but not by problems related to parents, where the relation is negative. In the case of the help-seeking, differences are lower and only reach significance in problems with teachers, or with peers when the responsibility of the problem is theirs, not of the student answering the questionnaire. Finally, the lack of significance of measurement weights linking emotional expression, self-isolation and, to a lesser degree, help-seeking to situations, suggests that the use of these strategies depends more on personal dispositions rather than on the kinds of situations included in the questionnaire.

The fact just described has a practical implication. If we were to train a student to use different coping strategies in different situations, we should answer previously two questions: 1) whether the situation plays a significant role in activating the strategy

considered and, 2) to what degree our student is sensitive to such situation, that is, to what degree his/her focusing on the situation contributes to use the different coping strategies. The significance of the regressions weights found in this study provides an answer to the first question. As for the second, it is possible to obtain “situation scores” in the same way that they are obtained, for example, for “coping strategies or styles”. If we acted in this way, we could find that students can have different coping profiles that, in some cases, are not adaptive enough.

For example, the negative and significant load of items connecting self-blaming and rumination to family problems suggests that the presence of problems linked to the “family situation” does not have the same effect on all adolescents. The greater the sensitivity to the situation, the lower the tendency to use such strategies even if the adolescent has scored high in the scale measuring them. Therefore, the use of family situations would not be especially adequate for teaching how to manage self-blaming and rumination. In a similar but opposite way, the positive and significant load of items showing self-blaming and rumination on problems with teachers implies that the greater the sensitivity to the situation, the greater the tendency to use such strategies even if the adolescent has scored low in the scale measuring them. In this case, the use of problems with teachers would be especially adequate for teaching how to manage self-blaming and rumination, unless the adolescent sensitivity to this situation was low.

Seventh and finally, PALV results provide evidence supporting the idea that, at least in the case of adolescents, *resilience* seems to depend on the kinds of coping styles preferred. The greater the coping is problem-solving focused, the greater the adolescents' resilience will be, and the greater it is emotion-focused, the lower their resilience will be. These results imply that for students to become more resilient, it is important not only to help them to develop and use the strategies that configure the

problem-solving focused coping, but also to become aware of the negative effects of using the strategies that configure the emotion-focused coping style.

This study has some limitations that, luckily, open paths for future research. First, data have not been analyzed from a developmental perspective including adult subjects. It may occur that the relationship between coping and resilience varies as a result of experiences with different kinds of problems. Second, the implication that the kinds of situations contribute to activate different strategies and in different degrees for each student is only a hypothesis that needs to be tested. Third, a hypothesis that derives directly from the relationship between coping styles and resilience is that, if coping styles were modified through psychological intervention, and if they were not only a variable associated with resilience but a factor contributing to it, then resilience should change too. However, this is again a hypothesis that needs to be tested. Finally, some authors have proposed that resilience is the result of a set of different personal and contextual protective and vulnerability factors (Luthar, 2006; Masten, 2007). So, in order to determine the kinds of factor affecting resilience, it is necessary to study the relationships of such personality factors with resilience, as well as to identify the relative weight of coping styles and personality factors in determining the degree of resilience, but these are objectives for future research.

References

- Alonso-Tapia, J., Nieto, C., & Ruiz, M. A. (2013). Measuring subjective resilience despite adversity due to family, peers and teachers. *The Spanish Journal of Psychology*, *16*(1), E19. doi:10.1017/sjp.2013.33
- Davey, M., Eaker, D. G., & Walters, L. H. (2003). Resilience processes in adolescents: Personality profiles, self-worth, and coping. *Journal of Adolescent Research*, *18*(4), 347-362. <http://dx.doi.org/10.1177/0743558403018004002>

- Eisenberg, N., Fabes, R. A., & Guthrie, I. K. (1997). Coping with stress: The roles of regulation and development. In S. A. Wolchik, & I. N. Sandler (Eds.), *Handbook of children's coping: Linking theory and intervention* (pp. 41-70). New York, NY: Plenum Press.
- Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology, 55*, 745-774.
<http://dx.doi.org/10.1146/annurev.psych.55.09902.141456>
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tathan, R. L. (2006). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson-Prentice Hall.
- Holzinger, K. J., & Swineforth, F. (1937). The bi-factor method. *Psychometrika, 2*(1), 41-54.
- Kato, T. (2013). Frequently used coping scales: A meta-analysis. *Stress and Health, 31*(4), 315-323. <http://dx.doi.org/10.1002/smi.2557>
- Kuhl, J. (1994). A theory of action and state orientations. In J. Kuhl, & J. Beckmann (Eds.), *Volition and personality: Action versus state orientation* (pp. 9-46). Seattle: Hogrefe and Huber.
- Lazarus, R. S. (2006). Emotions and Interpersonal Relationships: Toward a Person-Centered Conceptualization of Emotions and Coping. *Journal of Personality, 74*(1), 9-46. DOI: 10.1111/j.1467-6494.2005.00368.x
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer Publishing.
- Leipold, B., & Greve, W. (2009). Resilience: A conceptual bridge between coping and development. *European Psychologist, 14*(1), 40-50. doi:10.1027/1016-9040.14.1.40
- Luthar, S. S. (2006). Resilience in development: A synthesis of research across five decades. In D. Cicchetti, & D. J. Cohen (Eds.), *Development psychopathology: Risk, disorder and adaptation* (2nd ed., pp. 739-795). New York: Wiley.

- Masten, A. S. (2007). Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology*, *19*(3), 921-930.
<http://dx.doi.org/10.1017/S0954579407000442>
- Skinner, E. A., Edge, K., Altman, J., & Sherwood, H. (2003). Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychological Bulletin*, *129*(2), 216-269. <http://dx.doi.org/10.1037/0033-2909.129.2.216>
- Skinner, E. A., & Zimmer-Gembeck, M. J. (2007). The development of coping. *Annual Review of Psychology*, *58*, 119-144.
<http://dx.doi.org/10.1146/annurev.psych.58.110405.085705>
- Trivedi, D. N. (2015). Stress and secondary school students. *International Journal for Research in Education*, *4*(3). http://raijmr.com/wp-content/uploads/2015/05/1_1-7-Dr.-Dipti-N.-Trivedi.pdf
- Windle, G., Bennet, K. M., & Noyes, J. (2011). A methodological review of resilience measurement scales. *Health and Quality of Life Outcomes*, *9*(1), 1-18.
<http://dx.doi.org/10.1186/1477-7525-9-8>

CHAPTER IV

Article 3. Personal factors underlying
resilience in adolescence: cross-cultural
validity of the Prince-Embury model

**Personal factors underlying resilience in adolescence: cross-cultural
validity of the Prince-Embury model**

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The Spanish Journal of Psychology

Abstract

Resiliency personality factors are supposed to underlie resilience. To get evidence on this supposition, the Prince-Embury scales (PES) for adolescents were adapted to the Spanish population. Then, the relationship between the *resiliency* variables *sense of mastery*, *sense of relatedness* and *emotional reactivity* -assessed with the PES- with *resilience* -assessed with the *Subjective Resilience Questionnaire* (SRQ)- were analyzed, as well as the role of social integration within this relationship. Data from 1083 adolescents were analyzed using confirmatory techniques (CFA, PALV). CFA of PES displayed a good fit to the model. Path-analysis showed that *sense of mastery* and *emotional reactivity* predict resilience as expected, but also that, contrary to expectations based on Prince-Embury's theory, *sense of relatedness* and resilience are not related, either directly, or through social integration. Being related and socially integrated probably favors well-being, but it may not favor resilience unless associated to sense of mastery, at least in adolescence.

Keywords: resiliency; resilience; resiliency assessment; protective personality factors; risk personality factors; social integration.

It is a fact that some people become discouraged in the face of significant difficulties, no matter the age, whereas others bounce back when finding difficulties: they are resilient. Given the importance of being able to bounce back, one question arises: how to help people to recover and not to remain sunk, that is, to be resilient? Olsson, Bond, Burns, Vella-Brodrick and Sawyer (2003) reviewed and summarized different types of factors which could affect resilience during adolescence. According to them, resilience may depend, among other variables, on personal factors. In the same line, Masten (1994) had previously distinguished between *resiliency* and *resilience*, considering the first as a characteristic including the set of personal factors underlying *resilience* -the capacity to bounce back from significant adverse situations- (Luthar, 2006). However, evidence supporting the supposition that the so called “resiliency factors” underlie “resilience”, at least when this variable is assessed through self-reports, showing “subjective resilience”, that is, the degree of resilience perceived by the own subject, is scarce. Moreover, the relationship between resiliency and resilience is not only a theoretical question, but an empirical one, that is, it is necessary to demonstrate with empirical evidence such theoretical relation. Being this so, it was decided to gather evidence on the relationship between *resiliency* factors and *resilience*. It was also decided to focus the research in the adolescent population, in order to identify aspects which could be useful in designing future prevention programs for this developmental period.

Different lines of research have tried to identify *resiliency* factors affecting *resilience* in front of different relevant adverse situations, either acute or chronic (Masten & Narayan, 2012). However, if we want to progress in understanding the relations between resiliency and resilience, it may be useful to build an explicit model of these relations and to test its validity. For reasons that will be exposed soon, the Prince-Embury model (Prince-Embury, 2007) seemed to be a good choice. However, the scales

assessing the variables included in her model have not been previously adapted to the Spanish population. Hence, it was needed to adapt them before studying the resiliency-resilience relationship. Besides, as one of the factors that according to Prince-Embury configures resiliency is Sense of Relatedness, a factor favoring social integration, it might be that this variable mediated the effect of resilience.

The aims of this work are: 1) to adapt the Prince-Embury scales to the Spanish population, studying in an adolescent sample whether the structure of resiliency factors fits the one proposed originally; 2) to test whether the relationships between resiliency factors and resilience match the ones that could be expected according to their intended nature (Alonso-Tapia, Rodríguez-Rey, Hernansaiz-Garrido, Ruiz, & Nieto, 2015), and 3) to test the possible mediating role of social integration of effects of resiliency on resilience.

However, in order to achieve the aforementioned goals, it is necessary, first, to determine what “being resilient” involves, since the way resilience is conceptualized will condition how to assess it; and second, to establish which are the main personal variables configuring *resiliency* that could influence the degree of *resilience*. Both points will be examined next.

Theoretical framework

Resilience

According to Leipold and Greve (2009), Luthar (2006), Masten and Narayan (2012), Olsson et al. (2003), and Rutter (2013), most researchers agree that *resilience* is a phenomenon, that is, the outcome of a dynamic process that makes possible the attainment of positive adaptation within the context of significant adversity. Luthar (2006) have contributed to clarify the concept distinguishing it from related concepts such as ego-resilience, competence and hardiness, as well as Masten’s (1994) distinction between *resiliency* and *resilience*.

Once resilience has been defined, how can it be assessed? Olsson et al. (2003) have pointed that, in order to assess *resilience*, “emotional well-being” cannot be used as a marker, since considerable data exist suggesting that many adolescents functioning well under high stress -resilient adolescents- experience a high level of emotional distress, compared to their low stress peers. Adequate measures, then, should include a reference to both, the adverse situation experienced and the positive adaptation outcome. There are several instruments that have been designed for assessing resilience (Windle, Bennet, & Noyes, 2011), but most of them do not have adequate psychometric properties or do not assess resilience conceived as a positive adaptation (or recovery) despite experiences of significant adversity (Luthar, 2006). Other good instruments such as the Healthy Kids Resilience Assessment (Constantine, Benard, & Diaz, 1999), or the Healthy Kids Survey (Hanson & Kim, 2007), have been developed for assessing mainly protective external or internal factors favoring resilience, but not subjective resilience. Recently, however, several authors have developed measures for adolescents and adults with adequate psychometric properties and a design tailoring the above mentioned definition of resilience (Alonso-Tapia, Nieto, & Ruiz, 2013; Alonso-Tapia & Villasana, 2014; Rodríguez-Rey, Alonso-Tapia, & Hernansaiz-Garrido, 2015). They are measures of “subjective resilience” (the awareness of own experiences of resilience) and, consequently, they can be used as indirect proxies of positive adaptation.

Resiliency

Concerning personal attributes which can configure *resiliency*, Olsson et al. (2003) have reviewed and summarized those most frequently mentioned: tolerance towards negative affect, self-efficacy, self-esteem, foundational sense of self, internal locus of control, sense of humor, hopefulness, strategies to deal with stress, and an enduring set of values among others. However, there is no assessment instrument including all of them. Fortunately, Prince-Embury (2007) and the set of works recently published

related to her own studies (Prince-Embury & Saklofske, 2013, 2014), represent a line of research on *resiliency* undergone with children and adolescents supported by many studies. This line of research has allowed the development of a resiliency assessment instrument that, without being exhaustive, includes a set of personal characteristics whose combined effect is supposed to operate not only under adverse circumstances, but also in normal ones. These characteristics are organized in a *resiliency* model including the following three factors whose nature needs to be considered in order to understand how they can affect resilience:

A) *Sense of Mastery* (SM) would provide the opportunity for children and youngsters to interact with, and enjoy from, the experience of being the cause of different effects on the environment. It could be understood as their expectation of being able to do or achieve something, an expectation based on the experience of having enough resources or on the perception of having that ability. All children need experiences in their lives that challenge them just the right amount, so that they can master a situation or do something successfully. Three indicators are proposed:

A1) *Optimism*. It consists on positive attitudes towards the world/life in general and about one's own life specifically (Prince-Embury, 2007); focusing on the positive part that any situation might have, no matter how adverse it is, it is an efficient coping strategy which consequently can make a person not to sink, that is, to be resilient (Villasana, Alonso-Tapia, & Ruiz, 2016).

A2) *Self-efficacy*. It is the sense that one can deal with problems in an effective way. Bandura (1997) and Milioni et al. (2015) have already pointed out the impact that children's expectancies of their own efficacy may have on how they interact with circumstances. A high self-efficacy generates positive expectancies that can sustain efforts, even if circumstances are adverse. Self-efficacy can be expected to be positively related with resilience.

A3) *Adaptability*. It is conceived as the capacity to consider different options when facing a problem and, from a theoretical point of view, it would be intrinsically linked to resilience: learning from mistakes would be the best way of taking advantage of problems, and being able to ask for help and letting others help oneself when needed would prove the ability to adapt to the new situations.

B) *Sense of relatedness* (SR). Four specific personality characteristics were considered as fundamental for SR in the Resiliency Scales:

B1) *Trust* is the confidence one has in other people. If a person has developed a deep *trust* in people surrounding him/her, it will be easier for him/her to ask for help in front of adversity and, maybe, to find it. It is possible that *trust* contributes positively to *resilience*. However, if the first and main strategy that a person uses to confront adversities is asking for help due to the perception of social resources availability and of personal lack of own competence, then it would be possible to find not only a positive contribution from *trust* to *resilience*, but also a negative one, or at least, a null one.

B2) *Support* intends to measure perceived access to help from others. It matches the feeling of having people to turn to in case of need, and of being socially supported. If a person's strategy to solve his/her problems is asking for help, as long as he or she has a good supporting social network, he or she may enjoy proper well-being. However, as many times coping implies to confront difficulties without real external help, perceiving that one has *support* does not imply to be able to cope with difficulties in a resilient way. Therefore, it would be possible to find not only a positive relationship between *support* and *resilience*, but also a negative or, at least, a null one (Alonso-Tapia et al., 2015).

B3) *Comfort with others* is assumed to reflect one's experience in the presence of others resulting from past experience with them. (Prince-Embury, 2007). The fact that a person can easily interact with others may influence his/her help-seeking ability, if

necessary, when confronted with an adverse situation. Comfort may favor *resilience*, if asking for help is not the first and main strategy used to cope with problems. However, if it were the main and almost exclusive coping strategy of a person due to his/her lack of ability to look personally for solutions, it would be possible to find not only a positive relationship between *comfort* and resilience, but also a negative one or, at least, a null one (Alonso-Tapia et al., 2015).

B4) Tolerance refers to the capacity of having differences and still being in good relationships with others, with the ability of expressing the way they are, without any fear to rejection, and to be assertive.

Summarizing, *trust*, *support*, *comfort* and *tolerance* (the different dimensions of *Sense of Relatedness*) have been considered to have a great impact on the ability to overcome a complicated situation. As Prince-Embury asserts, though, if the suppositions above stated are correct, it may happen that SR does not have any effect on resilience, or even that the effect is negative.

C) Emotional reactivity (ER). This characteristic seems to be negatively related to self-regulation, which in turn refers to a set of tools that allow children to regulate their own attention, emotions and behavior (Cicchetti & Tucker, 1994; Pennington & Welsh, 1995; Rothbart & Bates, 1998; Prince-Embury & Saklofske, 2014). It can be expected that, to the extent that adolescents are able to voluntarily inhibit their impulses, to focus their attention in order to plan for the future, and to carry out those plans, they will be able to get what makes them happy and vice versa. ER summarizes -according to Prince-Embury- the combined effect of three personal characteristics:

C1) Sensitivity. This concept refers to the intensity and quickness for getting upset due to an adverse situation or stimulus that can affect to and interfere with daily life. To the extent that adolescents cannot control their emotions, they will not be able to find the adequate way of dealing with adversity, and so, they will not be resilient, and vice

versa.

C2) *Recovery*. This term alludes to the duration of the feeling of being upset: the time that a person needs to get over a traumatic experience. Though considered by some authors a resiliency factor (Davidson, 2000; Prince-Embury, 2007), other authors (Smith et al., 2008), with whom this study agrees, consider it a direct measure of *resilience*.

C3) *Impairment*. It is the consequence -cognitive or behavioral- of getting upset due to a high *sensitivity*. However, according to Marusak, Martin, Etkin and Thomason (2015), emotions can be controlled in some degree. The distinction made by Prince-Embury may be correct, given that both variables do not correlate perfectly. Nonetheless, it can be expected that both variables will be related to *resilience* in a negative way.

Although other instruments exist for assessing personal factors affecting resilience, such as the Baruth Protective Factors Inventory (BPFI) (Baruth & Carroll, 2002), it was decided that the best way to assess the mentioned factors contained in the Prince-Embury model (2007) was to use the own author's instrument, given the support found in other research studies (Prince-Embury & Saklofske, 2013, 2014).

Social integration

The third goal of this study is to analyze the relationship between *sense of relatedness (SR)*, *social integration (SI)* and *resilience*. In the previous paragraphs it has been suggested and justified the possibility that SR, contrary to Prince-Embury suppositions- did not relate *directly* to resilience. However, SR includes factors favouring positive peer relationships, and it is a fact that positive peer-relationships are the base of a good *social integration (SI)* as well as a stable predictor of long-term adjustment. Besides, prosocial behaviors with peers are significantly related to decreased aggression, asocial behavior, exclusion, anxiety, hyperactivity, and

victimization. In line with this, it would be expected a high correlation between SR and SI (Gulay, 2011). Given this possibility, if SR were not related to resilience, the same could happen with *social integration*. However, SR and SI are not the same. SI depends also on social motivation and social abilities (Alonso-Tapia & Rodríguez-Rey, 2012), a fact that suggest the possibility that the higher the SI, the higher would be resilience. If this were the case, SR might have an indirect effect on resilience as far as it contributes to social integration in interaction with other factors responsible of it. Nevertheless, it might also happen that SI does not relate to resilience as far as it could also develop on the base of social abilities, but without the contribution of personal characteristics that, in the absence of social support, make people resilient. So, It seems important to study the whether SI is a variable that conveys the effect of SR on *resilience*.

Integrating all the above relations, a path model with latent variables is proposed in which it is expected that:

1) Resiliency factors will adjust to the Prince-Embury model, organized in three predictive resiliency dimensions: SM, SR and ER (See Figure 4.1).

2) SM will relate positively to resilience and ER will relate negatively; as for SR, it is expected that, contrary to the Price-Embury model, this variable will not relate positively to other resiliency dimensions. The base for this prediction relies on the explanations given above when describing the meaning of each factor configuring SR. According to them, scoring high in SR may be due not necessarily to have *personal* resources to cope with adversity, but to a lack of them.

3) SR will relate positively to SI but, as explained when describing the bases of social integration, there is not enough support to formulate a clear hypothesis about the direction and degree in which this variable will predict resilience. Therefore, it will be tested whether SI mediates the effect of *sense of relatedness* on *resilience* (see figures 4.2 and 4.3).

Method

Participants

A total of 1,083 Spanish students from three public schools and one charter school participated in this study. From them, 492 were females (45.4%) and 591 males (54.6%), distributed in different levels of secondary education and high school: 38% belonged to the first cycle of secondary education (ages 13-14), 41.4% to the second cycle (ages 15-16) and 20.7% were high school students. Ages were comprised between 12 and 18 years old (Mean: 14.10 years; SD: 1.69). The sample, chosen in an incidental way, was divided randomly into two subsamples, half used in the initial estimation, and the other half used for cross-validation purposes.

Materials

Resiliency Scales for Children & Adolescents (RSCA)

Originally developed by Prince-Embury (2007) they were culturally adapted to be used with the Spanish population. The questionnaire is composed of 64 items, grouped in ten specific scales which are organized in three general dimensions: 1) *Sense of Mastery Scale* (SM), which includes optimism, self-efficacy and adaptability scales; 2) *Sense of Relatedness Scale* (SR), which includes trust, support, comfort and tolerance scales; and, 3) *Emotional Reactivity Scale* (ER), which includes sensitivity, recovery and impairment scales. Items are answered in a 5-level Likert scale, ranging from 0 (never) to 4 (almost always). Scale reliabilities in the American population were greater than .80 or .90, depending on the index used and age group. This scaled was subject to a double process of translation –English to Spanish and Spanish to English- by native experts in order to secure the fidelity of the translation. Once the initial and final redactions of each item were similar, the Spanish translation was accepted for the study.

Subjective Resilience Questionnaire (SRQ) (Alonso-Tapia, Nieto, & Ruiz, 2013)

This questionnaire measures overall Subjective Resilience (SR) structured in three

specific dimensions assessing the perceived degree of resilience when facing adverse events that students confront in their relationships with: teachers (RT), peers (RP) and parents/family (RF). It includes positive and negative worded items such as: “My teachers sometimes tell me that what I do or say is not correct, without trying to understand what is that I find difficult, but that doesn’t decrease my effort to learn.”, “Sometimes my friends criticize me for not doing something well instead of trying to help me, but that doesn’t decrease my effort to improve myself”, “If my parents ignore me when I need them to help me with a problem, I get discouraged and stop striving to solve it” (negative item). Reliability indexes for the overall SR scale was $\alpha = .85$, and for the specific scales, RT: $\alpha = .74$; RP: $\alpha = .64$; FR: $\alpha = .65$.

Social Integration Questionnaire (SIQ) (Alonso-Tapia & Rodríguez-Rey, 2012)

It is a questionnaire with a 12-item single scale, six positively and six negatively worded, assessing the degree of subjective social integration of the student, that is, the extent to which a student considers that: 1) he/she is accepted or rejected by his/her peer group, 2) his/her peers may ask or not for help if they need him/her, and 3) he/she would count on them or not. The degree of agreement with each item content is assessed using 5-level Likert scales ranging from 1 (complete disagreement) to 5 (complete agreement). The original reliability of the scale was $\alpha = .80$. Examples of positive and negative items are: “My peers usually count on me to whatever they need” (positive) and “At school they speak badly about me behind my back” (negative).

Procedure

The Ethical Committee of the Universidad Autónoma de Madrid approved the study. All participating schools, parents and students gave their informed consent. Questionnaires included a ciphered code to identify the questionnaires belonging to a same student, ensuring that anonymity was preserved. Students filled in the questionnaires in 40 minute sessions, distributed into the groups and courses to which

they belonged. One of the researchers, present during the completion of the questionnaires, provided participants with precise instructions on how to fill in the questionnaires.

Data analyses

Two series of models were estimated: first, the dimensional structure of the RSCA questionnaire was assessed; second, the effect of resiliency factors on explaining resilience was assessed.

In order to determine whether the RSCA data gathered in Spanish population fitted the structure originally found by Prince-Embury (2007), two confirmatory factor analyses (CFA) were carried out using data split at random into two subsamples: estimation and validation.

1) The structure suggested originally by Prince-Embury (2007) was used as baseline model (CFA-1). This structure assumed the existence of ten basic factors grouped in three second order ones (SM, SR and ER). Confirmatory factor analysis estimates were obtained using the maximum likelihood method, after examining whether data were adequate for the analysis (Mardia coefficient: $21.82 < 70$) (Mardia, 1970; Rodríguez & Ruiz, 2008). In order to assess model-fit, absolute fit indexes (χ^2 , χ^2/df , GFI), relative fit index (IFI) and non-centrality fit indexes (CFI, RMSEA) were used, as well as criteria for acceptance or rejection based on the degree of adjustment suggested by Hair, Black, Babin and Anderson (2010): $\chi^2/df < 5$; GFI, IFI and CFI $> .90$; RMSEA $< .08$).

2) A multi-group confirmatory factor analysis (CFA-2) was performed for cross-validating the structure, using both the estimation and validation subsamples, and imposing different sets of equality restrictions. The estimation method, adjustment indexes and criteria for acceptance or rejection were the same as those for the CFA-1.

Then, the reliability statistics (Cronbach's α) were calculated for each scale.

Next, in order to know to what extent the Resiliency Scales and dimensions included

in the model were capable of predicting resilience, two path analyses with latent variables (PALV-1 and PALV-2) were performed, PALV-1 using the estimation subsample, and PALV-2 cross-validating the model using both subsamples. After examining whether data were adequate for the analysis (Mardia: $33.29 < 70$), the estimation method, the adjustment indexes and the criteria for acceptance or rejection were the same used to estimate CFAs.

Finally, in order to know whether *social integration* mediated the effect of SR on resilience, two additional path analyses with latent variables were performed, PALV-3 using the estimation subsample, and PALV-4 cross-validating the model using both subsamples. After examining whether data were adequate for the analysis (Mardia: $41.15 < 70$), the estimation method, the adjustment indexes and the criteria for acceptance or rejection were the same used to estimate CFAs.

All models were estimated using IBM AMOS 22 software.

Results

Missing data

Missing data were substituted by central item score. This happened to 4% of subjects. Subjects with more than 3% of unanswered items were eliminated (1% of cases).

Confirmatory factor analyses (CFA)

Figure 4.1 shows the standardized estimates of the confirmatory model as well as the squared multiple correlations. All the weights (λ) were statistically significant ($p < .001$). Table 4.1 shows the fit statistics for the proposed model (CFA-1). Chi-square statistic was significant, probably due to the sample size (Hair et al., 2010), but the ratio $\chi^2/df = 3.95 < 5$, and the remaining indexes were well inside the limits that allowed the model to be accepted (GFI = .96, IFI = .95, and CFI = .95; RMSEA = .07).

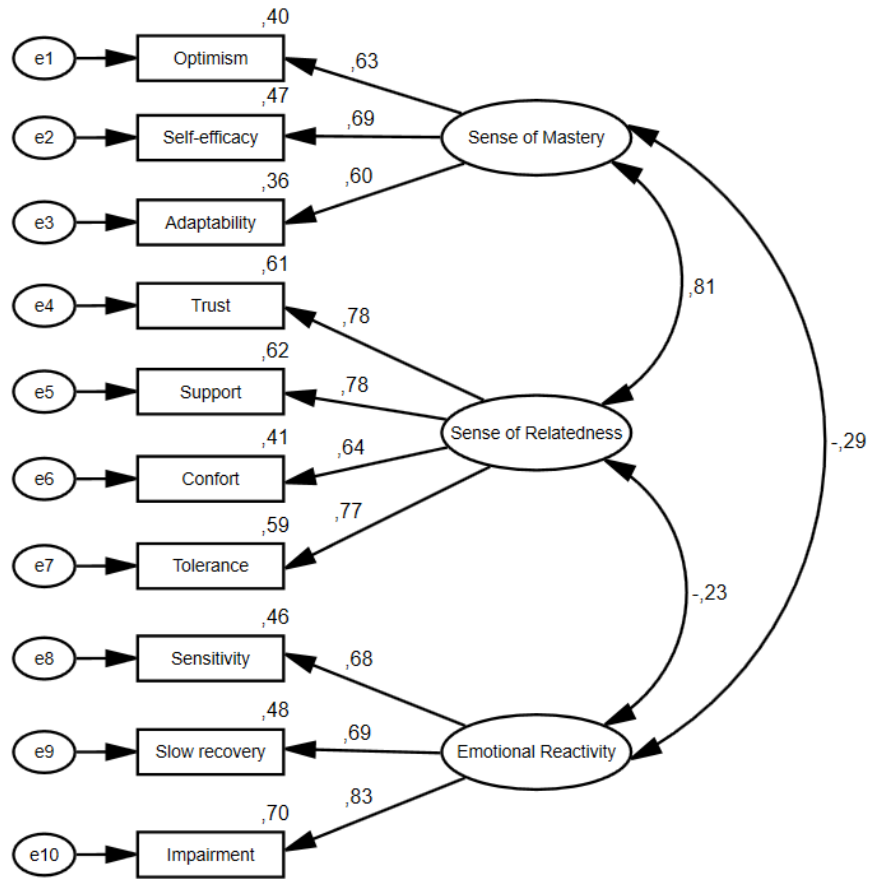


Figure 4.1. Resiliency Scales for Children & Adolescents measurement model in Spanish population (CFA-1) (N = 544). Standardized estimates.

Table 4.1.

Goodness-of-fit statistics for CFA of base model, of multi-group cross validation analysis and for Path Analysis with latent variables.

Analysis	χ^2	df	p	χ^2/df	GFI	IFI	CFI	RMSEA
CFA-1 (N=544)	126.65	32	<.001	3.95	.96	.95	.95	.07
CFA-2. (CrossVal) (N: 544-539)	201.43	64	<.001	2.72	.96	.96	.96	.04
PALV-1 (N=544)	295.43	60	<.001	4.92	.92	.92	.92	.08
PALV-2. (CrossVal) (N: 544-539)	605.38	151	<.001	4.74	.92	.91	.91	.06
PALV-3 (N=544)	355.69	71	<.001	5.01	.92	.91	.90	.08
PALV-4. (CrossVal) (N: 544-539)	672.04	142	<.001	4.73	.92	.91	.91	.06

CFA = confirmatory factor analysis; PALV = path analysis with latent variables.

In order to see whether the model could generalize to other samples, a cross-validation analysis was carried out. Table 4.1 shows the fit statistics of the proposed model (CFA-2). In this case, again chi-square statistic was significant, probably due to the sample size, but the adjusted ratio $\chi^2/df = 2.72 < 5$ and the remaining indexes fell again well inside the usually accepted cut-off points (GFI = .96; IFI = .96; CFI = .96; RMSEA = .04 < .08). Comparison statistics included in Table 4.2 show that fit was not reduced significantly even if restrictions on measurement weights, structural weights, structural covariances, structural residuals and measurement residuals were imposed. Therefore, it may be concluded that strict measurement invariance and structural invariance hold in the two samples used.

Table 4.2

Goodness-of-fit statistics for CFA and PALV cross-validation analyses.

Analysis	Model	df	χ^2	p
CFA-2: Cross-validity	Measurement weights	7	5.68	.57
	Structural covariances	13	10.90	.62
	Measurement residuals	23	32.83	.08
PALV- 2: Cross-validation 1	Measurement weights	9	4.57	.87
	Structural weights	12	5.20	.95
	Structural covariances	18	9.32	.95
	Structural residuals	19	9.51	.96
	Measurement residuals	31	36.06	.24
PALV- 4: Cross-validation 2	Measurement weights	10	8.43	.59
	Structural weights	14	9.41	.80
	Structural covariances	20	15.56	.74
	Structural residuals	21	15.73	.79
	Measurement residuals	34	41.79	.17

CFA = confirmatory factor analysis; PALV = path analysis with latent variables; df = degrees of freedom.

Reliability

The reliability statistics (Cronbach's α) of each specific scale in the Spanish sample were the following: Optimism, α : .76; Self-efficacy, α : .78; Adaptability, α : .60; Trust, α : .80; Support, α : .80; Comfort, α : .78; Tolerance, α : .73; Sensitivity, α : .71; Slow recovery, α : .85; Impairment, α : .88. As for the general scales, the reliability statistics were: Mastery, α : .86; Relatedness, α : .91; Emotional reactivity, α : .90.

Path-analysis model on the effect of resiliency scales on resilience.

Figure 4.2 shows the standardized estimates for the proposed path model (PALV-1). All the regression weights (λ , γ) were statistically significant ($p < .001$). Table 4.2 shows goodness-of-fit statistics for the proposed model. Concerning the degree of fit, the chi-square statistic was significant, probably due to the sample size, but the ratio $\chi^2/df = 4.92 < 5$, and the remaining indexes (GFI = .92; IFI = .92; CFI = .92; RMSEA = .08) were well inside the limits that allowed the model to be accepted. However, in this model the main concern was focused on γ regression coefficients, assessing the relation between SM, SR, and ER factor scores and SRS scores. As it can be seen, SM regression weight was $\gamma = .25$ ($p < 0.001$), SR regression weight was $\gamma = .05$ ($p = .358$), and ER regression weight was $\gamma = -.33$ ($p < .001$). Resilience did depend on the level of sense of mastery and emotional reactivity of individuals, and this two factors were negatively related with each other, in a significant way ($\phi = -.21$; $p < .001$). However sense of relatedness did not show any predictive effect on resilience, additional to effects exhibited by other resiliency factors. The cross-validation model (PALV-2) showed that fit was not deteriorated when imposing equality restrictions between estimation and validation samples (Table 4.2).

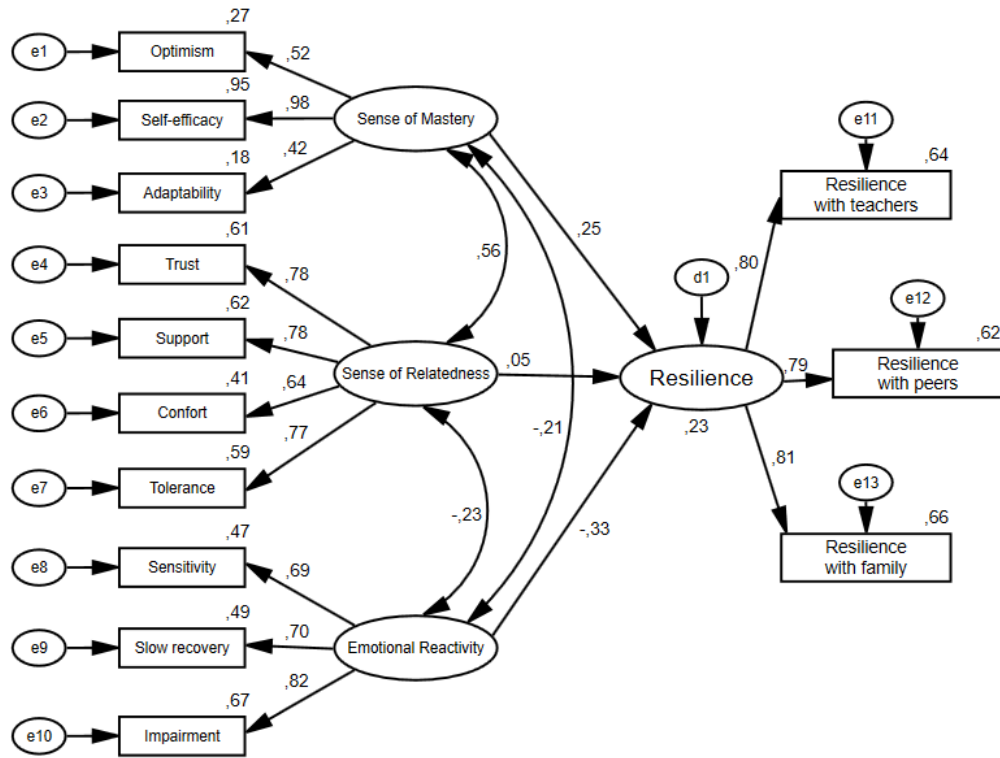


Figure 4.2. Standardized estimates for the path analysis model explaining resilience (PALV-1).

Path-analysis on the effect of resiliency scales on resilience through social integration

Figure 4.3 shows the additional mediating effect of social integration on the effect of sense of relatedness over resilience. Table 4.1 shows the goodness-of-fit statistics for the proposed model (PALV-3). Chi-square statistic was significant, and the ratio $\chi^2/df = 5.00 < 5$, fell on the standard limit that allowed the model to be accepted. The remaining adjustment indexes were inside the proposed limits: GFI = .92; IFI = .91; CFI = .91; RMSEA = .08. All the measurement weights (λ) were significant ($p < .001$). The direct effect of sense of mastery ($\gamma = .26, p < .001$) and emotional reactivity ($\gamma = -.31, p < .001$), both resiliency dimensions, on resilience did not differ substantially from the previous model. The direct effect of sense of relatedness on resilience ($\gamma = .00, p < .001$) was not statistically significant, while the direct effect on social integration was positive and significant ($\gamma = .66, p < .001$). The direct effect of social integration on resilience

was small and not-significant ($\beta = .07, p = .255$) giving a non-significant indirect effect of sense of relatedness on resilience.

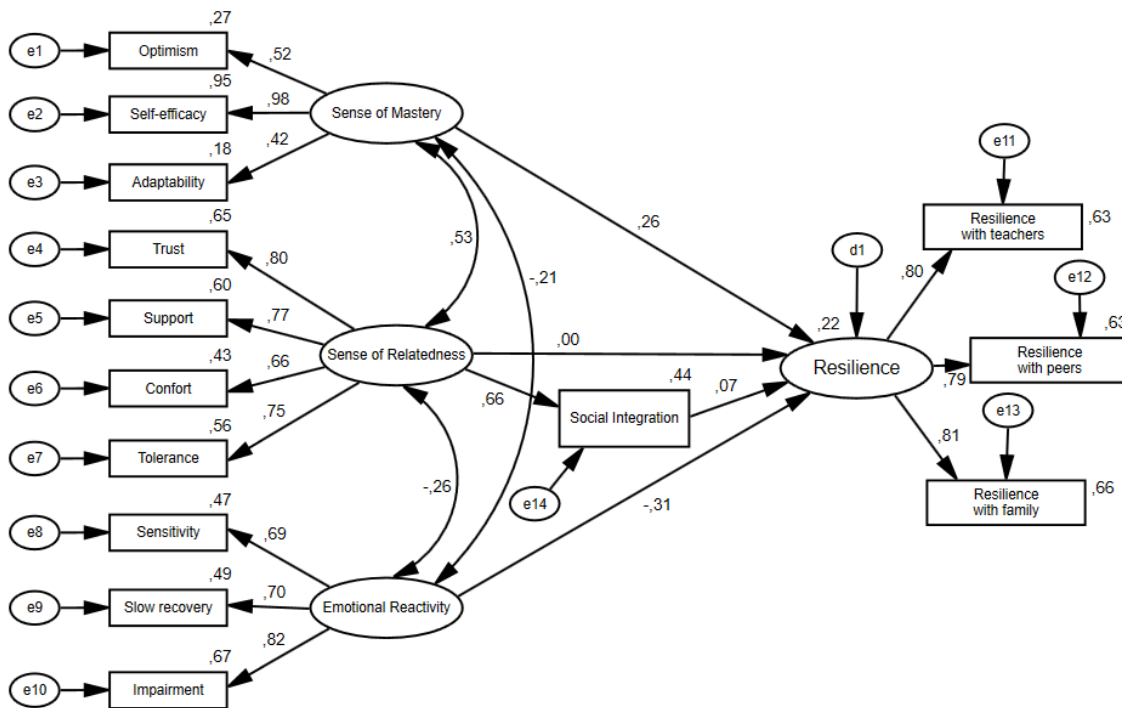


Figure 4.3. Standardized estimates for the path analysis model explaining resilience (PALV-3).

Within the multi-group cross-validation model (PALV-4) chi-square statistic was significant, but the adjusted ratio $\chi^2/df = 4.73 < 5$, and the remaining fit indexes (GFI = .92, IFI = .91, and CFI = .91, RMSEA = .06) were inside the limits allowing the model to be accepted. Comparison statistics included in Table 4.2 show that fit was not significantly reduced when restrictions on measurement weights, structural weights, structural covariances, structural residuals and measurement residuals were imposed.

Discussion

The main objectives of this research were, first, to study whether the structure of the RSCA in our Spanish sample fitted the Prince-Embury Model, being this the first adaptation of this questionnaire to the Spanish population; second, to test the predictive relationships of resiliency variables SM, SR and ER with resilience; and, third, to study

the role that social integration plays. What kind of contributions has this study made in relation to these objectives?

In the first place, our results have provided evidence supporting the initial expectancies on the structure validity and reliability of the Resiliency Scales in the Spanish sample. A stable and good fitting structure was found supporting its use among Spanish adolescents.

In the second place, regression analyses have shown that SM and ER are capable of predicting the level of resilience as expected: the higher SM, the higher resilience, and the lower ER, the higher resilience. Nevertheless, the results have also shown that SR does not predict resilience beyond the variance explained by SM and ER, as the Prince-Embury model implied, a fact that can be explained as follows. If a boy or a girl are surrounded by people who constantly help them -a protective environment-, they will probably overcome the difficulties that life presents them as long as help is available; but if help is not available, the result will depend, first, on whether they have learned to take the initiative of looking for solutions or, on the contrary, on whether they have learned to use a help seeking behavior as the first and main strategy; and second, on whether they have learned to self-regulate their own emotions. In the first case, the important point is that, besides having a supporting environment (SR), they are able to solve problems by “themselves” -they are high in SM -, and so, they would not ask for help until having tried to solve the problem by themselves has proved to be unsuccessful. This way of coping makes them “resilient”. Therein lies the high importance of strengthening SM. Nevertheless, if the first strategy is asking for help, children do not learn to cope with adverse situations in the absence of social help. In a similar way, the fact that SM and ER correlate negatively implies the possibility of controlling and self-regulating the own emotional response: the higher SM, the lower ER, and the higher resilience.

The fact that SR exhibits a high effect on social acceptance and integration (SAI) and that, at the same time, SAI does not have an effect on resilience also supports our point of view. It is a fact that positive peer relationships are a stable predictor of long-term adjustment. Prosocial behaviors with peers are significantly related to decreased aggression, asocial behavior, exclusion, anxiety, hyperactivity, and victimization (Gulay, 2011). In line with this, it would be expected a high correlation between sense of relatedness and social acceptance and integration, as it has happened. However, though being socially adapted, accepted and integrated may help to achieve well-being, it does not warrant that, in the absence of social help, people will be able to bounce back from significant adverse situations.

The above explanation runs against Luthar's point of view when she states that: "Resilience rests, fundamentally, on relationships" (Luthar, 2006, p. 780). Relationships are good and necessary, as they make well-being easy. Nonetheless, many times people have to confront alone adverse situations and so, it is better to strengthen SM and emotion self-regulation if we want our children, adolescents and youngsters to act in a resilient way.

Our results go in line with those of Werner and Smith (1992). They found that resilient children were not especially popular or apart of the crowd. Their research suggested that, in the face of adversity, the internal mechanisms that help people to be able to relate to others in a meaningful and long-lasting way are the key to be resilient, and not only the fact of having supportive relationships.

Our results have theoretical and practical implications, as well as limitations. First, from a theoretical point of view, the explanation to our data is a plausible hypothesis that needs to be tested further, given that all supporting evidences have been raised using correlational techniques. Second, as long as our explanation is correct, children should be allowed to confront challenges and difficulties by themselves before helping

them, and they should be taught to ask for help once they have tried to solve the difficulty for themselves, since overprotection seems to be an obstacle to resilience. Additionally, according to Olsson et al. (2003), other personal characteristics exist that can configure resiliency and have not been studied.

References

- Alonso-Tapia, J., Nieto, C., & Ruiz, M. A. (2013). Measuring subjective resilience despite adversity due to family, peers and teachers. *The Spanish Journal of Psychology*, *16*, 1-13. <http://dx.doi.org/10.1017/sjp.2013.33>
- Alonso-Tapia, J., & Rodríguez-Rey (2012). Situaciones de interacción y metas sociales en la adolescencia: Desarrollo y validación del Cuestionario de Metas Sociales (CMS). [Interaction situations and social goals in adolescence: Development and initial validation of the Social Goal Questionnaire (SGQ)] *Estudios de Psicología*, *33*(2), 191-206.
- Alonso-Tapia, J., Rodríguez-Rey, R., Hernansaiz-Garrido, H., Ruiz, M. A., & Nieto, C. (2015). Personality factors underlying resilience: Development and validation of the Resiliency Questionnaire for Adults (RQA). *Paper submitted for publication*. Universidad Autónoma of Madrid.
- Alonso-Tapia, J., & Villasana, M. (2014). Assessment of subjective resilience: Cross-cultural validity and educational implications. *Infancia y Aprendizaje. Journal for the Study of Education and Development*. *37*(3), 629-664.
<http://dx.doi.org/10.1080/02103702.2014.965462>
- Bandura A. (1997). *Self-efficacy: the exercise of control*. New York, NY: Freeman.
- Cicchetti, D., & Tucker, D. (1994). Development and self-regulatory structures of the mind. *Development and Psychopathology*, *6*(04), 533-549.
- Constantine, N. A., Benard, B., & Diaz, M. (1999) Measuring Protective Factors and Resilience Traits in Youth: The Healthy Kids Resilience Assessment. *Paper*

presented at the Seventh Annual Meeting of the Society for Prevention Research.

New Orleans, LA.

Davidson, R. J. (2000). Affective style, psychopathology and resilience: Brain mechanisms and plasticity. *American Psychologist*, 55(11), 1196-1214.

Gulay, H. (2011). Assessment of the prosocial behaviors of young children with regard to social development, social skills, parental acceptance-rejection and peer relationships. *Journal of Instructional Psychology*, 38(3-4), 164-172.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson-Prentice Hall.

Hanson, T. L., & Kim, J. (2007). *Measuring resilience and youth development: the psychometric properties of the Healthy Kids Survey*. Institute of Education Sciences. U.S. Department of Education.

Leipold, B., & Greve, W. (2009). Resilience: A conceptual bridge between coping and development. *European Psychologist*, 14(1), 40-50. <http://dx.doi.org/10.1027/1016-9040.14.1.40>.

Luthar, S. S. (2006). Resilience in development: A synthesis of research across five decades. In D. Cicchetti & D. J. Cohen (Eds.), *Development Psychopathology: Risk, disorder and adaptation* (2nd ed., pp. 739-795). New York: Wiley.

Mardia, K. V. (1970). Measures of multivariate skewness and kurtosis with applications. *Biometrika*, 57, 519-530.

Marusak, A., Martin, K. R., Etkin, A., & Thomason, M. E. (2015). Childhood trauma exposure disrupts the automatic regulation of emotional processing. *Neuropsychopharmacology*, 40(5), 1250-1258.
<http://dx.doi.org/10.1038/npp.2014.311>

Masten, A. S. (1994). Resilience in individual development: Successful adaptation despite risk and adversity. In M.C. Wang & E.W. Gordon (Eds), *Educational*

resilience in inner-city America: Challenges and prospects (pp. 3-25). Hillsdale, NJ: Erlbaum.

- Masten, A. S., & Narayan, A. J. (2012). Child development in the context of disaster, war, and terrorism: Pathways of risk and resilience. *Annual Review of Psychology*, 63(1), 227-257. <http://dx.doi.org/10.1146/annurev-psych-120710-100356>
- Milioni, M., Alessandri, G., Eisenberg, N., Castellani, V., Zuffianno, A., Vecchione, M., & Caprara, G. V. (2015). Reciprocal relations between emotional self-efficacy beliefs and ego-resiliency across time. *Journal of Personality*, 83(5), 552-563. <http://dx.doi.org/10.1111/jopy.12131>
- Olsson, C. A., Bond, L., Burns, J. M., Vella-Brodrick, D. A., & Sawyer, S. M. (2003). Adolescent resilience: a concept analysis. *Journal of Adolescence*, 26(1), 1-11. [http://dx.doi.org/10.1016/S0140-1971\(02\)00118-5](http://dx.doi.org/10.1016/S0140-1971(02)00118-5)
- Pennington, B. F., & Welsh, M. (1995). Neuropsychology and developmental psychopathology. In Cicchetti and D. J. Cohen (Eds.), *Manual for developmental psychopathology* (Vol. 1, pp. 254-290). New York: John Wiley.
- Prince-Embury, S. (2007). *Resiliency Scales Manual: For Children & Adolescents: a Profile of Personal Strengths*. San Antonio, TX: Harcourt Assessment, Incorporated.
- Prince-Embury, S., & Saklofske D. H. (Eds.) (2013). *Resilience in children, adolescent and adults: Translating research into practice*. New York: Springer.
- Prince-Embury, S., & Saklofske, D. H. (2014). *Resilience interventions for youth in diverse populations*. New York, Springer.
- Rodríguez-Rey, R., Alonso-Tapia, J., & Hernansaiz-Garrido, H. (2015). Reliability and Validity of the Spanish Brief Resilience Scale (BRS). *Psychological Assessment*, 28(5), e101-e110. <http://dx.doi.org/10.1037/pas0000191>

- Rodríguez, M. N., & Ruiz, M. A. (2008). Atenuación de la asimetría y de la curtosis de las puntuaciones observadas mediante transformaciones de variables: Incidencia sobre la estructura factorial. *Psicológica*, 29(2), 205-227.
- Rothbart, M. K., & Bates, J. E. (1998). Temperament. In W. Damon (Series, Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional and personality development* (5th ed., pp. 105-176). New York: Wiley.
- Rutter, M. (2013). Annual Research Review: Resilience - clinical implications. *Journal of Child Psychology and Psychiatry*, 54(4), 474-487.
<http://dx.doi.org/10.1111/j.1469-7610.2012.02615.x>
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E. M, Christopher, P. J., & Bernard, J. (2008). The brief resilience scale: assessing the ability to bounce back. *International Journal of Behavioral Medicine*, 15(3), 194-200.
<http://dx.doi.org/10.1080/10705500802222972>
- Villasana, M., Alonso-Tapia, J., & Ruiz, M. (2016). A model for assessing coping and its relation to resilience in adolescence from the perspective of “person-situation interaction”. *Personality and Individual Differences*, 98, 250-256.
<http://dx.doi.org/10.1016/j.paid.2016.04.053>
- Werner, E. E., & Smith, R. S. (1992). *Overcoming the odds: High risk children from birth to adulthood*. Cornell University Press.
- Windle, G., Bennett, K. M., & Noyes, J. (2011). A methodological review of resilience measurement scales. *Health and quality of life outcomes*, 9(1), 1.
<http://dx.doi.org/10.1186/1477-7525-9-8>

CHAPTER V

Article 4. Coping processes and personality factors as predictors of resilience in adolescent students: validation of a structural model

Coping processes and personality factors as predictors of resilience in adolescent students: validation of a structural model

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Revista de Psicodidáctica

Abstract

To know on which factors educators should focus to favor resilience development in adolescence, this study tests two predictive models of the hypothetical relations between two kinds of predictors -coping styles and resiliency personality factors- and resilience as criterion. A total of 1078 Spanish students (12- 18 years old) from four different Spanish schools participated in the study. To determine to what extent the variables in the model predict resilience, four path analyses with latent variables (PALV) were realized: two for testing each model, and the remaining two for cross-validation. Results showed that perceived improvement in resilience depends mainly on coping strategies and styles in the expected direction, and that resiliency (personality) factors mediate the effect of coping styles, but their own effect is very low. Moreover, the effect of “sense of relatedness” was contrary to expectations coming from previous studies. A hypothetical explanation of this result is suggested.

Keywords: resilience, resiliency, coping, protective personality factors, person-situation interaction.

Everyone, at some point in their lives, has to deal with adverse situations. However, it is a fact that not everyone faces them in the same way. There are people who break down in the face of difficulties, get depressed, feel anxiety, or stagnate in the problem, whereas others are not only able to cope with it, but even emerge strengthened from these situations. These people are said to be “resilient” (Uriarte, 2005). There are different points of view on the nature of resilience. However, this study is in line with that of Luthar (2006) and Smith et al. (2008), according to whom resilience is a concept that refers to positive adaptation or recovery despite experiences of significant adversity. It implies, then, two elements: adverse situations and positive adaptation (not getting overwhelmed, not getting depressed). Leipold and Greve (2009) pointed also that resilience is a phenomenon -the “outcome” of acting in an adaptive way in front of adverse situations-, and therefore, it becomes necessary to explain the processes underlying it. This necessity is especially important because resilience varies from a person to another, and people can be aware of their degree of resilience (Alonso-Tapia, Nieto, & Ruiz, 2013; Villasana, Alonso-Tapia, & Ruiz, 2016). This awareness, if assessed, can also predict different positive and negative behavioral events related to how people –children, adolescents or adults- will react when confronted with adversity in the future, and to whether they will develop some kind of pathology as a consequence of being exposed to adversities of different kind and degree (Masten & Narayan, 2012; Reivich & Shatte, 2002).

Thus, what does an adolescent do that allows him/her to say that he/she does not become discouraged when facing an adverse situation? What makes him/her different from the adolescent who says he/she gets discouraged? If personal factors underlying *resilience* could be identified and measured, such knowledge would help professionals to develop effective interventional strategies aimed at helping adolescents exposed to social adversity and trauma to react in a resilient way (Riggs & MacDougall, 2014).

Masten (2007) considered that resilience might depend on dynamic psychological processes such as the use of *coping strategies* (CS), and/or on *personality factors* configuring what she called *resiliency*. In relation to these two possibilities, on one side, some authors (Prince-Embury, 2007; Prince-Embury & Courville, 2008; Prince-Embury & Saklofske, 2013, 2014) have shown the important role that the personality factors configuring *resiliency* play as potential determinants of *resilience* in adolescence. On the other side, Villasana et al. (2016) have shown that *resilience* in adolescents depends in great degree on *coping styles* and *strategies*. However, it is possible that the coping styles and the personality factors underlying *resilience* are related. If this were the case, it would be important to know the relative weight of each of these variables on *resilience*, as depending on the answer to this question, the implications for assessment and intervention would be different. However, what is the theoretical basis from which this objective can be approached? What coping processes and personality factors might underlie resilience and, therefore, should be assessed to test our suppositions?

Coping processes

The degree of *resilience* that people show could be explained by the use of different CS (Leipold & Greve, 2009). According to most researches, coping is an essential factor for understanding the effects of stress on children and adolescents. According to Lazarus and Folkman (1984), coping refers to “those constantly changing cognitive and behavioral efforts that are developed in order to manage the external and/or internal specific demands that are appraised as exceeding the individual's resources” (p. 141). When dealing with such demands, it is important that the answer – the strategies used – is functionally adaptive to the specific context or situation (Folkman & Moskowitz, 2004; Skinner, Edge, Altman, & Sherwood, 2003). According to this idea, the study of coping processes should not separate the person who copes from his or her situational context (Lazarus, 2006): both types of variables should be taken into account in order to

appraise coping efficacy and, consequently, its effects on resilience. In any case, which coping strategies and styles should be considered as potential variables affecting *resilience*?

Coping strategies are virtually infinite (Skinner et al., 2003). However, neither all strategies are equally effective, nor their assessment has the same capacity for predicting well-being or negative affect. A recent meta-analysis of coping measures (Kato, 2013) showed that some of the strategies included in the reviewed scales have good predictive power for positive and negative outcomes. Regarding the positive outcomes, well-being correlates with active coping and planning (that is, trying to solve the problem; $r = .25$), positive reinterpretation and growth (positive thinking; $r = .32$), seeking social support (help-seeking; $r = .24$) and acceptance (avoiding to think about the problem when it is unsolvable; $r = .18$). On the other hand, negative affect is related to thinking repetitively about the problem (rumination; $r = .38$), behavioral disengagement (isolation; $r = .40$) and focusing on venting emotions (emotional expression; $r = .28$). Lastly, depression, anxiety and general distress correlate with self-blame ($r = .43$, $r = .32$ and $r = .43$, respectively). On the base of these data, a recent study by Villasana et al. (2016) developed a questionnaire, the “Person-Situation Coping Questionnaire for Adolescents (PSCQA)”, that includes the above mentioned coping strategies and that, at the same time, takes into account the role of situations in the activation of coping strategies.

In the PSCQA, though coping strategies can be organized in different ways (Carver & Connor-Smith, 2010; Schwarzer & Schwarzer, 1996), the authors decided to follow the well-known distinction, put forward by Lazarus and Folkman (1984), between problem-focused coping (PFC) and emotion-focused coping (EFC). PFC aims to handle or alter the problem that is the source of discomfort. This kind of coping includes some of the strategies above mentioned –positive thinking, look for problem solution, help-

seeking-, whereas EFC includes the strategies self-blaming, self-isolation and emotional expression. Other two strategies, rumination and thinking avoidance, load in the two coping styles.

The aforementioned study demonstrates that PFC relates positively to *resilience*, whereas the opposite happens with emotion-focused coping (EFC), as well as with the role played by the situation in such relationship. Another study on the relationships between coping processes and resilience, based on the “person x situation” interaction but realized with adult subjects by Alonso-Tapia, Rodríguez-Rey, Garrido-Hernansaiz, Ruiz and Nieto (2016) showed similar relationships for PFC and EFC. Therefore, given the evidence supporting the validity of the coping model on which the PSCQA is based, such model will be used in the present study to test the relative weight of coping and the personality factors on *resilience*.

Personality factors

Concerning personal factors that can configure *resiliency*, Olsson, Bond, Burns, Vella-Brodrick and Sawyer (2003) reviewed and summarized the most frequently mentioned ones: tolerance for negative affect, self-efficacy, self-esteem, foundational sense of self, internal locus of control, sense of humor, hopefulness, strategies to deal with stress, enduring set of values among others. A search for an instrument that allowed assessing all of them did not produce any result. Fortunately, Prince-Embury (2007) and the set of works recently published related to her own studies (Prince-Embury & Saklofske, 2013, 2014) represent a good line of research on *resiliency* developed with children and adolescents. According to it, *resiliency* translates the combined effect of several personal traits that operate not only under adverse circumstances, but also in normal ones (Prince-Embury, 2013). Prince-Embury organized resiliency variables in a *resiliency* model (Prince-Embury & Saklofske, 2014) which have been tested with Spanish adolescents by Villasana, Alonso-Tapia and Ruiz

(*in press*). This model, that will be used as a starting point to test the relative weight of coping and personality factors on *resilience*, includes three general factors: sense of mastery (SM), sense of relatedness (SR) and emotional reactivity (ER) (Prince-Embury, 2007). SM refers to personal internal resources to face problems, and manifests in three specific factors: optimism, self-efficacy and adaptability. SR refers to perceived support from the environment and adequate social skills, and manifests by the indicators trust, support, comfort and tolerance. Finally, ER implies a lack of adequate emotional self-regulation abilities, and manifests in the specific factors sensitivity, impairment, and slow recovery. Results of previous studies suggest that SM would correlate positively with resilience and that ER would correlate negatively. As for SR, results are not convergent (Villasana et al., *in press*; Prince-Embury, 2014), and so no clear expectancies of its effects on resilience will be established.

Coping, resiliency and resilience: hypothetical model

The more or less continuous use of coping strategies and styles may or may not crystallize in the development of the personality factors (resiliency) that contribute to resilience. If coping and personality factors were independent, then each one would contribute separately to resilience, as the model shown in Figure 5.1 suggests. On the other side, if the more or less continuous use of coping strategies and styles contributed to the development of resiliency factors, these would act as mediators of the effect of coping on resilience, as shown in Figure 5.2. In this case, according to the model, it is expected, first, that PFC and EFC relate negatively. Second, that PFC would probably affect resilience in a positive way, though this effect would be mediated through its positive relation with SM and a negative relation with ER. Third, that EFC would probably affect resilience in a negative way, though this effect would be also indirect, through its positive relation with ER. Finally, given that results of previous studies on the effect of SR on resilience are not convergent, no hypothesis will be anticipated on

such relationship. Instead, the study will try to answer the question of what of the following alternatives is supported by data. On one side, it may be that SR effects on resilience are positive, especially considering that this variable correlates positively with SM (Prince-Embury, 2014). However, a work with adolescent population (Villasana et al., *in press*) found that SR was unrelated to resilience, a result that could be attributed to the fact that people high in sense of relatedness may be high or not in SM. Due to this fact, SR would contribute positively to resilience in the first case and negatively in the second one. Besides, the relation could be null or even negative depending on participants' characteristics.

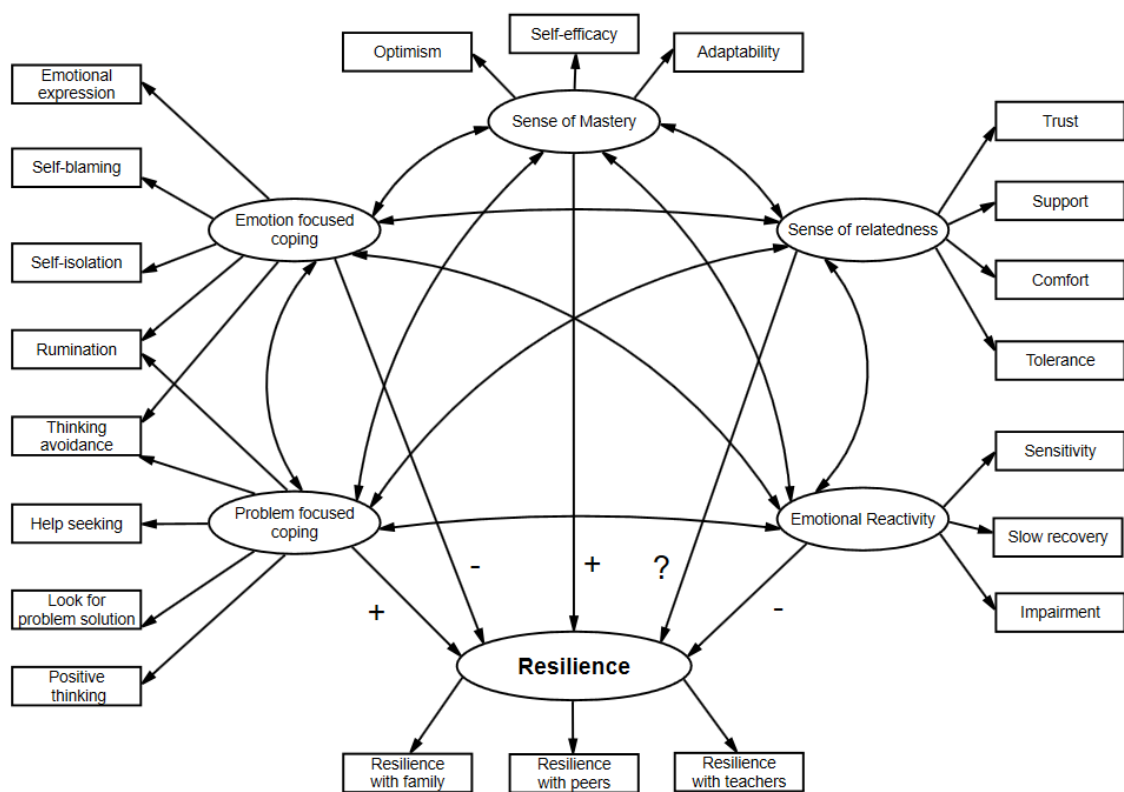


Figure 5.1. Dependence of *resilience* on coping styles and personality factors (Model 1).

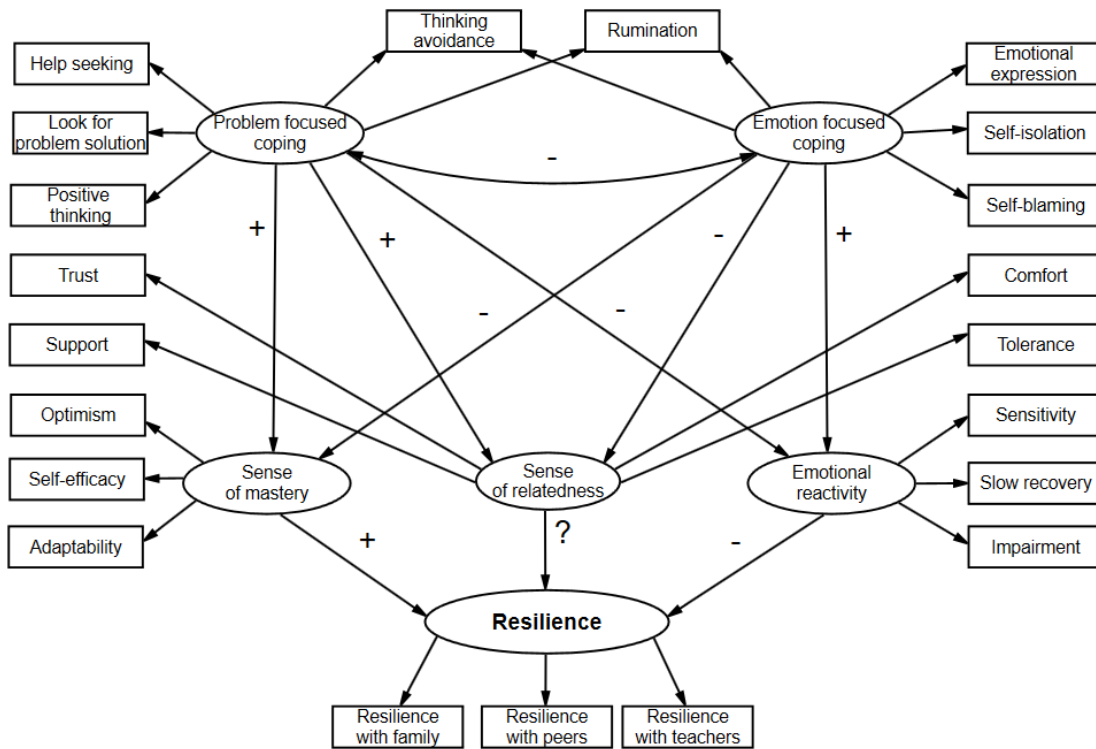


Figure 5.2. Dependence of *resilience* on coping styles through personality factors (Model 2).

Summarizing, the main objective of the study is to test which of the two models of the relationship between coping, resiliency (personality) factors and resilience is best supported by data, or whether these support both models.

Method

Participants

A total of 1,078 Spanish students, 585 boys and 493 girls, from three public schools and one charter school took part in the study. Two of the schools were settled in rural areas, whereas the other two pertained to urban areas. Ages were comprised between 12 and 18 years ($M = 14.10$; $SD = 1.69$). By educational stages, 412 belonged to the first cycle of secondary education (ages 13-14), 452 to the second cycle (ages 15- 16) and 214 were high school students (ages 17-18). The sample was divided into two subsamples, one for the initial analysis, and the other one for cross-validation.

Materials

Subjective Resilience Questionnaire (SRQ) (Alonso-Tapia et al., 2013)

This questionnaire has a general scale (*SR*) and three specific ones that assess the perceived degree of resilience when facing adverse events that students confront in their relationships with teachers (*RT*), with peers (*RP*) and with family-parents- (*RF*). It is composed of 30 items, ten for each group of people that may cause stress. Half of the items for each group are positive and half, negative. Item examples are: “My teachers sometimes tell me that what I do or say is not correct, without trying to understand what is that I find difficult, but that doesn’t decrease my effort to learn”, “Sometimes my friends criticize me for not doing something well instead of trying to help me, but that doesn’t decrease my effort to improve myself”, “If my parents ignore me when I need them to help me with a problem, I get discouraged and stop striving to solve it” (negative item). The reliability index ω (McDonald, 1999) of the general scale is: *SR*: $\omega = .97$, and those of the specific scales are: *RT*: $\omega = .98$; *RP*: $\omega = .93$; *RF*: $\omega = .93$.

Person-Situation Coping Questionnaire for Adolescents (PSCQA) (Villasana et al., 2016)

This questionnaire allows assessing to what extent the *CS* used by adolescents generalize to different situations or vary depending on the kind of adverse situation. It is composed of 40 items, which make reference to eight different kinds of *CS*: *Rumination* ($\omega_{\text{rum}} = .90$); *thinking avoidance* ($\omega_{\text{thav}} = .88$); *self-isolation* ($\omega_{\text{siso}} = .91$); *help seeking* ($\omega_{\text{hseek}} = .91$); *look for problem solution* ($\omega_{\text{ps}} = .90$); *emotional expression* ($\omega_{\text{emexp}} = .90$); *self-blaming* ($\omega_{\text{sblem}} = .89$); *positive thinking* ($\omega_{\text{POSTH}} = .90$); and to one of five possible adverse situations (“problems with peers due to my own fault”, “problems with parents”, “problems with teachers”, “problems with peers because of their fault”, and “problems of study and achievement”). The coping strategies are grouped in two *CS*: *problem-focused coping (PFC)*, ($\omega_{\text{PFC}} = .83$), and *emotion focused*

coping (PFC), ($\omega_{EFC} = .97$).

Resiliency Scales for Children & Adolescents (RSCA) (Prince-Embury, 2007)

These scales were translated following the usual process for granting translation adequacy –first English to Spanish and then Spanish to English- to be used with the Spanish population. The questionnaire has 64 items grouped in ten specific scales integrated into three general ones: (1) *Sense of mastery scale (SM)* that includes the optimism, self-efficacy and adaptability sub-scales; (2) *Sense of relatedness scale (SR)*, that includes the trust, support, comfort and tolerance scales; and (3) *Emotional reactivity scale (ER)* that includes the sensitivity, recovery and impairment scales. Items are answered in a 5 point Likert scale, from 0 (never) to four (almost always). The reliability of the scales in the American sample was greater than .80 or .90, depending on indexes and ages, and in this study, they ranged between .76 and .80 in the case of the nine first order factors, and between .86 and .91 in the case of the three general scales.

Procedure

Ethics approval for this study was granted by the Research Ethics Committee at the Universidad Autónoma of Madrid, Spain. Students filled out the questionnaires distributed into the groups and courses to which they belonged, in 50-minute sessions. One of the researchers, present during the completion of the questionnaires, provided the different groups with precise instructions. The questionnaires included a code to identify that they belonged to a same student, but anonymity was preserved. Once the data were collected, the following analyses were carried out to determine the factorial and predictive validity of the Person-Situation Coping Questionnaire for Adolescents (PSCQA).

Data analyses

As stated above, in order to determine to what extent the *coping styles* and *resiliency*

scales predict *resilience*, the scores derived from all items included in each original scale included in the questionnaires, without eliminating anyone of them, were used as observed variables. Then, first, correlations between the factor scores in the main independent and dependent variables were calculated to see whether each variable related to resilience before deducting the effect of its relation to other variables.

Second, two models were suggested for validation: Model 1, which analyses the direct dependence of *resilience* on *CS* and *personality factors* (Figure 5.1), and Model 2, which analyses whether *CS* effect on *resilience* is mediated through *personality factors* (Figure 5.2).

Third, in order to test each model, two path analysis with latent variables (PALV) were conducted, one for each model (PALV-1, PALV-3), using the first subsample. Data were analyzed using AMOS-23 statistical software. Estimates were obtained using the maximum likelihood method, after examining whether data were adequate for the analysis (Mardia's coefficient: $21.82 < 70$) (Rodríguez & Ruiz, 2008). In order to assess model-fit, absolute fit indexes (χ^2 , χ^2/df , GFI, SRMR), relative fit index (IFI) and non-centrality fit indexes (CFI, RMSEA) were used, as well as criteria for acceptance or rejection based on the degree of adjustment described by Hair, Black, Babin and Anderson (2010). The AIC index for comparing models was also used.

Fourth, in order to cross-validate the results of the previous analyses, two multi-group analysis (PALV-2, PALV-4) were carried out, one for each model, using the two subsamples and employing the same criteria that were used in the initial analysis for estimating parameters and for assessing model fit.

Results

Correlation analysis

Table 5.1 shows correlations between the main predictors and *resilience*, as well as between predictors themselves. Correlations between predictors were in the expected

direction, except for the correlation between the two *CS*, positive and highly significant. As for correlations with *resilience*, all of them were highly significant and in the expected direction, though not very high. However, the correlation between two variables may be due to their mutual dependence on a third one. So, in order to understand the nature of the relations, the following analyses were realized.

Table 5.1

Correlations between *coping styles, resiliency factors and resilience*.

	PFC ¹	EFC	SM	SR	ER
RES	.35***	-.25***	.53***	.27***	-.40***
PFC		.28***	.78***	.67***	-.13
EFC			-.32***	-.21**	.40***
SM				.75***	-.36***
SR					-.27***

¹ RES: Resilience; PFC: Problem-focused coping; EFC: Emotional-focused coping; SM: Sense of mastery; SR: Sense of relatedness; ER: Emotional reactivity.

Dependence of resilience on coping styles “and” personality factors (Model 1)

Figure 5.3 shows the standardized estimates of the confirmatory model, as well as the squared multiple correlations, and Table 5.2 shows the fit statistics of the proposed model (PALV-1). Concerning the degree of fit, chi-square statistic was significant, probably due to the sample size, but the ratio χ^2/df , and the GFI, RMSEA and SRMR indexes were well inside the limits that allowed the model to be accepted. However, IFI = .88 and CFI = .88 fell slightly short of the standard limits of significance. Therefore, a *cross-validation analysis* (PALV-2) was carried out in order to test the validity of the model. The fit statistics presented in Table 5.2 are better than those of PALV-1 as, with the exception of chi-square statistic, all the remaining indexes were well inside the limits allowing the model to be accepted. Besides, the model comparison statistics (Table 5.3) showed that fit is not reduced even when restrictions are imposed for equality between groups in measurement weights, structural weights, structural covariances, structural residuals, and measurement residuals.

Considering the questions that the PALV was to answer, results in Figure 5.3 show that: (1) The model is useful for explaining almost half of variance in *resilience* (47%); (2) The effect from *coping styles* and *resilience* is highly significant, positive in the case of *PFC*, and negative in the case of *EFC*, as expected. (3) The effect from *resiliency* factors on *resilience*, once discarded their relation with *CS*, did not reach a significant level. Besides, though it not was a question that the PALV was trying to answer, *PFC* and *EFC* relation is non-significant.

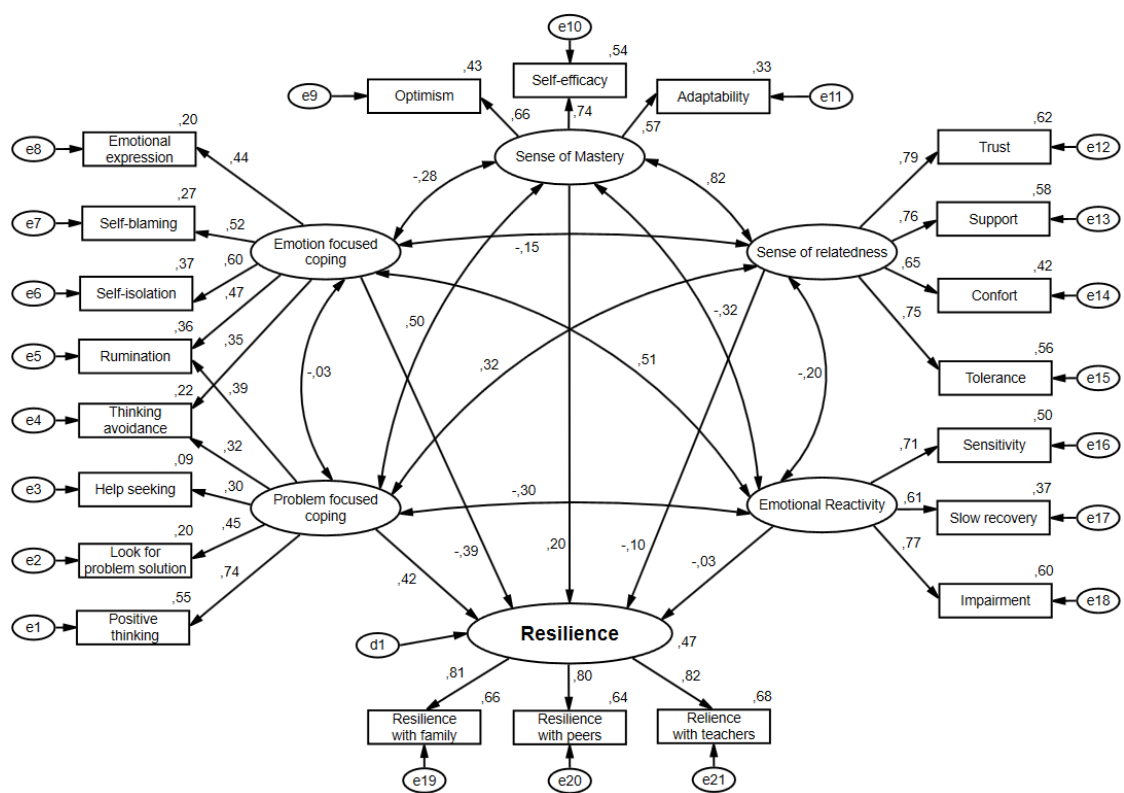


Figure 5.3. Dependence of *resilience* on *coping styles* and *personality factors*. Results corresponding to Model 1.

Table 5.2

Goodness-of-fit statistics for path analyses with latent variables and for cross validation analyses corresponding to Model 1 (PALV-1 & 2) and to Model 2 (PALV-3 & 4).

	χ^2	<i>df</i>	<i>p</i>	χ^2/df	GFI	IFI	CFI	RMSEA	SRMR	AIC
PALV-1, M1 N=542	596.45	172	<.001	3.46	.90	.88	.88	.068	.066	714.45
PALV-2, CVA (N=542/541)	1131.48	403	<.001	2.80	.91	.90	.90	.044	.069	1249.48
PALV-3, M2 N=542	736.82	178	<.001	4.13	.88	.84	.84	.076	.077	842.82
PALV-4, CVA (N=542/541)	1333.40	388	<.001	3.43	.89	.87	.87	.049	.081	1507.15

Note. PALV = Path Analysis with Latent Variables. PALV-1 = Baseline Model-1; PALV-2 = Cross-validation analysis Model-1; PALV-3 = Baseline Model-2; PALV-4 = Cross-validation analysis Model-2.

Table 5.3

PALV-2. Cross validation of the model using multi-group analyses with two samples. Chi-square differences for model comparison against the unconstrained multi-sample model.

Model	<i>df</i>	χ^2	<i>p</i>
Measurement weights	17	19,968	.27
Structural weights	22	24,254	.33
Structural covariances	37	43,017	.23
Structural residuals	38	45,827	.18
Measurement residuals	59	76,055	.07

Dependence of resilience on coping styles “through” personality factors

Figure 5.4 shows the standardized estimates of the confirmatory model, as well as the squared multiple correlations. All prediction weights, even those very low, were significant at 1%.

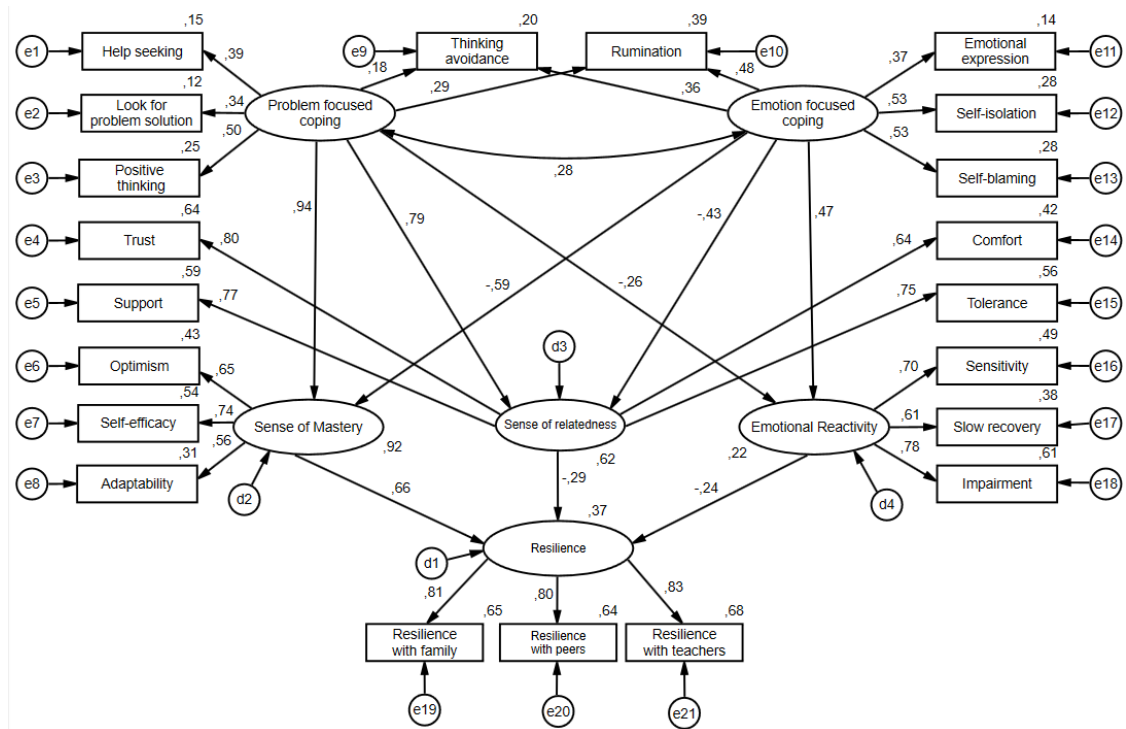


Figure 5.4. Dependence of Resilience on Coping styles through personality factors. Results of solution corresponding to Model 2 (PALV-3).

Table 5.2 shows the fit statistics of the proposed model (PALV-3). Chi-square statistic was significant, probably due to the sample size. From the remaining indexes, GFI = .88, IFI = .84 and CFI = .84, fell slightly short of the standard limits of significance. Therefore, a *cross-validation analysis* (PALV-4) was carried out in order to test the validity of the model. In this case, fit was slightly better, as shows in Table 5.2. Besides, the model comparison statistics (Table 5.4) showed that fit is not reduced even when restrictions are imposed for equality between groups in measurement weights, structural weights, structural covariances and structural residuals. These results suggest that the model is well estimated and should not be rejected.

Table 5.4

PALV-4. Cross-validation of the model using multi-group analyses with two samples. Chi-square differences for model comparison against the unconstrained multi-sample model.

Model	<i>df</i>	χ^2	<i>p</i>
Measurement weights	17	13.600	.69
Structural weights	26	24.760	.53
Structural covariances	29	33.529	.26
Structural residuals	32	38.251	.20
Measurement residuals	53	72.256	.04

The analysis of direct and indirect effects (Table 5.5) shows that, as expected, *CS* effect on *resilience* is indirect (direct effects were deleted from the model after an initial analysis because they were null). Moreover, once deducted the indirect effect of *CS* that *SM*, *SR* and *ER* are conveying from the direct effect of these personality factors on *resilience*, the direct effect of these variables is very small.

Table 5.5

PALV-4. Direct and indirect effects of the predictors on resilience.

Predictors	Effects	Criteria			Resilience
		Sense of Mastery	Sense of Relatedness	Emotional Reactivity	
Problem focused coping	<i>Direct effect</i>	.94	.79	-.26	*
	<i>Indirect effect</i>				.46
Emotion focused coping	<i>Direct effect</i>	-.59	-.43	.47	*
	<i>Indirect effect</i>				-.38
Sense of Mastery	<i>Direct effect</i>				.66
Sense of Relatedness	<i>Direct effect</i>				-.29
Emotional Reactivity	<i>Direct effect</i>				-.24

Comparison of Models 1 and 2

Models 1 and 2 are well estimated. However, the comparison of fit indexes shows that fit of Model 2 is slightly worse than that of Model 1. This conclusion is also

supported by the comparison between AIC indexes for PALV-1 and PALV-3, and for PALV-2 and PALV-4 (Table 5.1). In all cases, the AIC index is better for Model 1 than for Model 2. This result means that *CS* clearly affect *resilience*, whereas *resiliency* factors' effect is hardly significant. The significant correlations initially found (Table 5.1) might be due to the potential mediating role that *SM*, *SR* and *ER* play between *CS* and *resilience*, a result that deserves more evidence, especially from a developmental point of view.

Discussion

The goal of this study was to validate a predictive model of the hypothetical relations between coping, resiliency and resilience, by analyzing the relative fit and the predictive validity of two predictive models. In relation to this goal, the results give support to the following conclusions.

First, in adolescence, resilience, as the capacity of bouncing back after adverse experiences, seems to depend mainly on coping styles and strategies, as results corresponding to both tested models suggest. In line with the results found by Villasana et al. (2016), the greater the degree in which adolescents' coping is problem-solving focused and the lower in which is emotion focused, the greater their *resilience* is and vice versa. However, the positive and significant correlation found between both coping styles suggests that adolescents could not be very consistent in adopting strategies corresponding to one style or the other. Given this result, the less adaptive style might interfere with the more adaptive style, a fact that can influence resilience.

Second, though correlations between resiliency (personality) factors and resilience are significant, in line with Prince-Embury ideas discussed in the introduction, results of testing Model 1 showed that once deducted the variance in common with *CS*, the effect of personality factors is not significant. This result does not invalidate correlations, but shows that the effect of personality factors on resilience is probably due to the fact that

both share a great deal of common variance with CS.

Third, results corresponding to the analysis of Model 2 suggest that the effect of CS on *resilience* is mediated through the personality factors included in the model. Besides, these results provide additional evidence supporting conclusion two, as once deducted CS indirect effects on resilience from resiliency factors' total effect, the direct effect of these factors is almost irrelevant.

The results supporting the above conclusions could be explained as follows. First, adolescents combine in a rather high degree the use of strategies defining the two CS. When this happens, the less adaptive style may interfere with the more adaptive style, as illustrated by the following case. Let us suppose that an adolescent usually adopts a problem-focused CS. In one case, for example, if he/she experiences stress when envisioning an exam, it could happen that he/she starts ruminating the possibility of failing –one of the coping strategies related to the problem-focused coping style, but also to the emotion-centered coping style-, and that this rumination produces anxiety until it becomes an unbearable experience. Then, in order to reduce it, he/she might take a premature decision based on a lack of emotional regulation, for example, not to take the exam. In another case, however, if the stress is due to having quarreled with a friend, he/she may look for a solution to the problem –another strategy related to the problem-focused coping style- and decide to call his friend to make it up with him/her. Once the decision had been taken, the upset -emotion- can disappear. Depending on the greater or lower regularity with which adolescents use the different CS, resilience development can vary.

In any case, CS and not resiliency (personality) factors are the variables that mainly contribute to subjective resilience, an effect that may be mediated by personality factors. The analysis of Model 2 shows that PFC's positive effect on resilience is conveyed mainly through its positive relation with SM and, in lesser degree, through its

negative relation with ER.

A result that deserves special attention is the fact that PFC's direct effect on SR is positive, while the direct effect of SR on *resilience* is negative. From a mathematical point of view, this result implies that the greater the PFC, the greater the SR and the lower the resilience. This implication is neither coherent with the fact that the indirect effect from PFC on resilience is positive nor with the implication of the psychological meaning of PFC for resilience.

A hypothetical explanation of the result just mentioned –a hypothesis that should be tested- could be the following. SR could be high for two reasons. On one side, SR implies good relationships with other people based on trust, comfort, tolerance and support. Adolescents with high PFC tend to be optimistic, to have high self-efficacy and to be highly adaptable, characteristics that do not obstruct but rather favor the development of SR and *resilience*. These adolescents may ask for help, but only after trying to solve problems in adverse situations by themselves. Therefore, they strengthen the PFC strategies that contribute positively to *resilience*. On the other side, the development of SR may be due to a supporting environment that protects adolescents from adversity, a support that, at the same time, makes them highly dependent on other people. This dependence would obstruct the use of adequate CS favoring *resilience* when protection or help from others is lacking or impossible, and adolescents have to confront adverse situations only with their own resources. The two reasons that can favor SR would explain the meaning of the path $PFC \rightarrow SR \rightarrow Resilience$: once deducted the positive effect of PFC on SR, the effect of scoring high in this variable can only be due to the second reason: a supporting environment that, instead of favoring PFC, favors being dependent on others for confronting adversities and so, obstruct the development of *resilience*. If this hypothetical explanation received support beyond this paper, it would clarify the role that supportive environments may play on developing

resilience, an important need according to Masten's and Narayan's review (2012).

Our results have important educational implications in order to promote the development of *resilience*. Taking into account the path $PFC \rightarrow SM \rightarrow Resilience$, adolescents should be taught to use PFC strategies –to look for a solution for the stressing problem, to think in a positive way about problem implications, to ask for help if necessary, or to avoid thinking on the problem if it has not any solution-. Besides, considering the path $PFC \rightarrow ER \rightarrow Resilience$, adolescents should also be taught how to self-regulate their emotional reactivity in a positive way. This regulation would imply to use strategies such as to suppress negative thoughts, to focus on present-moment experiences bringing fully attention to them in a non-judgmental way, to focus on future instead of regretting past events, to avoid comparing oneself with other people, to focus on what mistakes can teach, etc. Finally, taking into account the explanation given to the path $PFC \rightarrow SR \rightarrow Resilience$, adolescents should be taught to confront adversities by themselves so that they can develop their personal coping resources, and only if personal confrontation fails, to ask for help. A supporting environment should make adolescent autonomous, not dependent. This last implication is a very important one. A supporting environment may favor well-being, but not necessarily resilience development. People show their *resilience* mainly when they have to cope alone with adversity. So, unless educational interventions focus their efforts on helping students to know how to cope by themselves with adversity, adolescents do not be able to become resilient when they have to confront adversity without other's help.

The present study has also some limitations that raise new research questions. First, the relationships that have been analyzed between CS, resiliency and resilience are based in correlations, and so they not demonstrate the existence of causal relations: only support the idea that data are coherent with causal suppositions. A different kind of study is necessary to test causality. Second, the fact that the explanation given to the

PFC-SR-resilience is hypothetical makes necessary to test it.

References

- Alonso-Tapia, J., Nieto, C., & Ruiz, M. (2013). Measuring subjective resilience despite adversity due to family, peers and teachers. *Spanish Journal of Psychology*, *16*(1), 1-13. doi: 10.1017/sjp.2013.33
- Alonso-Tapia, J., Rodríguez-Rey, R., Garrido-Hernansaiz, H, Ruiz, M., & Nieto, C. (2016). Coping assessment from the perspective of the person-situation interaction: Development and validation of the Situated Coping Questionnaire for Adults (SCQA). *Psicothema*, *28*(4), 479-486. <http://doi: 10.7334/psicothema2016.19>
- Carver, C. S., & Connor-Smith, J. (2010). Personality and coping. *Annual Review of Psychology*, *61*, 679-704. doi: 10.1146/annurev.psych.093008.100352
- Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology*, *55*, 745-774.
<http://dx.doi.org/10.1146/annurev.psych.55.09902.141456>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson-Prentice Hall.
- Kato, T. (2013). Frequently used coping scales: A meta-analysis. *Stress and Health*, *31*(4), 315-323. <http://dx.doi.org/10.1002/smi.2557>
- Lazarus, R. S. (2006). Emotions and interpersonal relationships: Toward a person-centered conceptualization of emotions and coping. *Journal of Personality*, *74*(1), 9-46. doi: 10.1111/j.1467-6494.2005.00368.x
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer Publishing.
- Leipold, B., & Greve, W. (2009). Resilience: A conceptual bridge between coping and development. *European Psychologist*, *14*(1), 40-50. <http://dx.doi.org/10.1027/1016-9040.14.1.40>

- Luthar, S. S. (2006). Resilience in development: A synthesis of research across five decades. In D. Cicchetti & D. J. Cohen (Eds.), *Development psychopathology: Risk, disorder and adaptation* (2nd ed., pp. 739-795). New York, NY: Wiley.
- McDonald, R.P. (1999). *Test theory. A unified treatment*. Mahwah, NJ: Lawrence Erlbaum.
- Masten, A. S. (2007). Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology*, *19*(3), 921-930.
<http://dx.doi.org/10.1017/S0954579407000442>
- Masten, A. S., & Narayan, A. J. (2012). Child development in the context of disaster, war, and terrorism: Pathways of risk and resilience. *Annual Review of Psychology*, *63*(1), 227-257. doi: 10.1146/annurev-psych-120710-100356
- Olsson, C. A., Bond, L., Burns, J. M., Vella-Brodrick, D. A., & Sawyer, S. M. (2003). Adolescent resilience: A concept analysis. *Journal of Adolescence*, *26*(1), 1-11.
[http://dx.doi.org/10.1016/S0140-1971\(02\)00118-5](http://dx.doi.org/10.1016/S0140-1971(02)00118-5)
- Prince-Embury, S. (2007). *Resiliency Scales Manual: For Children & Adolescents: A profile of personal strengths*. San Antonio, TX: Harcourt Assessment, Incorporated.
- Prince-Embury, S., & Courville, T. (2008). Comparison of one-, two-, and three-factor models of personal Resiliency using the Resiliency scales for children and adolescents. *Canadian Journal of School Psychology*, *23*(1), 11-25.
<https://doi.org/10.1177/0829573508316589>
- Prince-Embury, S. (2013). Resiliency scales for children and adolescents; theory, research and clinical application. In S. Prince-Embury & D. Saklofske (Eds.), *Resilience in children, adolescent and adults: translating research for practice* (pp. 19-44). New York: Springer.
- Prince-Embury, S., & Saklofske D. H. (Eds.) (2013). *Resilience in children, adolescent and adults: Translating research into practice*. New York: Springer.

- Prince-Embury, S., & Saklofske, D. H. (2014). *Resilience interventions for youth in diverse populations*. New York, Springer.
- Reivich, K., & Shatte, A. (2002). *The resilience factor: 7 keys to finding your inner strength and overcoming life's hurdles*. New York: Broadway Books.
- Riggs, E., & MacDougall, C. (2014). Child health SIG: Child Resilience and equity - A child's right to be heard. *In-touch - Newsletter of the Public Health Association of Australia Inc.*, 31(3), 1-3.
- Rodríguez, M. N., & Ruiz, M. A. (2008). Atenuación de la asimetría y de la curtosis de las puntuaciones observadas mediante transformaciones de variables: Incidencia sobre la estructura factorial. *Psicológica*, 29(2), 205-227.
- Skinner, E. A., Edge, K., Altman, J., & Sherwood, H. (2003). Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychological Bulletin*, 129(2), 216-269. <http://dxdoi: 10.1037/0033-2909.129.2.216>.
- Schwarzer, R., & Schwarzer, C. (1996). A critical survey of coping instruments. In M. Zeidner & N. S. Endler (Eds.), *Handbook of coping* (pp. 107-132). New York, Wiley.
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E. M., Christopher, P. J., & Bernard, J. (2008). The Brief Resilience Scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*, 15(3), 194-200.
doi: 10.1080/10705500802222972
- Uriarte, J. (2005). La resiliencia. Una nueva perspectiva en psicopatología del desarrollo. *Revista de Psicodidáctica*, 10(2), 61-80.
doi:10.1387/RevPsicodidact.14848
- Villasana, M., Alonso-Tapia, J., & Ruiz, M. A. (2016). A model for assessing coping and its relation to Resilience in adolescence from the perspective of “person-

situation interaction". *Personality and Individual Differences*, 98, 205-256. doi:
10.1016/j.paid.2016.04.053

Villasana, M., Alonso-Tapia, J., & Ruiz, M. A. (*in press*). Personal factors underlying resilience in adolescence: Cross-cultural validity of the Prince-Embury model. *Spanish Journal of Psychology*.

CHAPTER VI

Article 5. Cross-cultural validity of the
“Classroom Motivational Climate Questionnaire”:
comparison between French and Spanish students

**Cross-cultural validity of the “Classroom Motivational Climate Questionnaire”:
comparison between French and Spanish students**

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Revista de Psicodidáctica

Abstract

The objective of this study was to obtain evidence about the cross-cultural validity of the “Classroom Motivational Climate Questionnaire” (CMCQ), developed recently for secondary and high school students to make possible the assessment of such climate and to promote its change. With this purpose, French and Spanish secondary education, high school and vocational education students’ results were compared. A total of 749 French students formed the group to be compared with the original Spanish sample. To validate the CMCQ, confirmatory factor analyses, reliability and correlation and regression analyses were made. The results showed that CMCQ is a reliable and valid instrument to measure motivational climate in France as in Spain. It allows detecting which learning patterns can be changed for improvement, and predicts to a large extent the satisfaction level with the teacher. Likewise it showed some existing differences between Spanish and French students in the motivational role attributed to some teachers’ strategies, differences whose theoretical and practical implications are discussed.

Keywords: classroom motivational climate; assessment of motivational; success expectancies; learning motivation; student's satisfaction.

Theoretical framework

The basic meaning that every learning situation should have for students is that it makes possible to improve their own abilities, making people more competent and allowing them to enjoy this experience (Dweck & Elliot, 1983). This is the goal that any teacher pursues when trying to design and organize his/her lessons: to create an environment that promotes motivation and learning, and that favors a higher satisfaction. However, to achieve such goal it is first necessary to know what determines the students' motivation to achieve learning goals.

Academic motivation is conditioned by personal and environmental factors that influence the meaning and incentive that attaining learning goals has for students. This meaning depends on personal factors such as values, interests, goals, expectancies and self-regulation ability (Alonso-Tapia, 2005; Alonso-Tapia, Huertas, & Ruiz, 2010; Alonso-Tapia, Nieto, & Ruiz, 2013; Alonso-Tapia, Panadero, & Ruiz, 2014; Assor, Kaplan, & Roth, 2002; Núñez, Vallejo, Rosario, Tuero, & Valle, 2014; Patrick, Kaplan, & Ryan, 2011; Covington, 2002; Deci & Ryan, 2002; Eccles & Wigfield, 2002; Elliot, 2005; Zimmerman & Schunk, 2008). These values and interests change depending on social conditions such as parents' socio-cultural level or being or not an immigrant (Alonso-Tapia & Simón, 2012; Franzé, 2002; Salili & Hoosain, 2007), as well as on factors defining instructional environment and configuring classroom motivational climate (Alonso-Tapia & Pardo, 2006; De Corte, Verschaffel, Entwistle, & Van Merriënboer, 2003; Urdan & Turner, 2005).

Therefore, when trying to illustrate what is affecting student's motivation, we could split up the factors in three groups: individual's previous personal traits, sociocultural conditionings, and characteristics coming from instructional situations that shape classroom motivational climate. This last group of factors is especially important, as they can be acted upon. So, it is important to know the main teaching patterns that shape

the classroom motivational climate, and to develop tools with an adequate validity to enable their assessment. The objective of this study is, then, to contribute to this development following the ideas of Ames (1992) and the work of Alonso-Tapia and Pardo (2006) and Alonso-Tapia and Fernández-Heredia (2008, 2009).

Ames (1992) coined the concept of *classroom motivational climate* (CMC). She considered that CMC can favor mastery or performance goal orientation depending on the kinds of activity patterns adopted by teachers in six areas of teaching represented by the acronym TARGET: task, authority, recognition, grouping, evaluation and time. Evidence supporting the importance of all these classroom factors for enhancing motivation to learn has been provided by the review of Urda and Turner (2005). Subsequently, consistent with the ideas of Ames, and Urda and Turner, Alonso-Tapia and Pardo (2006) and Alonso-Tapia and Ruiz (2007) identified a set of teaching patterns or strategies, organized around different points throughout the learning sequence, that operationalize the concept of CMC. The research on such patterns has demonstrated the usefulness of creating such a climate to improve motivation's study towards the learning. The patterns referred to, shown in Table 6.1 were used to design the Classroom Motivational Climate Questionnaire, CMCQ (Alonso-Tapia & Fernández-Heredia, 2008). The results of the initial studies revealed that this questionnaire is a reliable and valid tool for identifying the degree in which the different teaching patterns configure a CMC learning oriented and for predicting its effect on different students' variables: interest, perceived ability, effort, success expectancies, satisfaction (Alonso-Tapia & Fernández-Heredia, 2008, 2009; Alonso-Tapia & Moral, 2010; Alonso-Tapia & Simón, 2012), resilience (Alonso-Tapia et al., 2013) and self-regulation (Alonso-Tapia et al., 2014).

Table 6.1.

Teaching patterns assessed by the CMCQ, and criterion scale with item-examples.

CMCQ Variables
<i>Teacher makes use of novelty.</i> This teacher (T) presents often new information that increases our interest.
<i>Teacher assesses previous knowledge.</i> This T explores what we know on a subject before explaining it.
<i>Teacher relates different topics.</i> This T tries to help us to relate new ideas with what we already know.
<i>Teacher induces public participation.</i> This T likes us to participate, listen to us and answer to our questions
<i>Teacher' messages orient to learning.</i> This T likes us to enjoy learning new things.
<i>Learning objectives are clearly stated.</i> (-) This T changes from a moment to the next, and this is confusing.
<i>Classroom activity is well organized.</i> In this class, task instructions are clear, so that we know what to do.
<i>Teacher supports autonomy.</i> (-) This T does not allow the freedom of choosing how to work or with whom.
<i>Teacher teaches to work step by step.</i> This T explains step by step, and so it is easier to understand.
<i>Teacher uses many examples.</i> (-) This teacher gives almost no examples: So it is difficult to understand.
<i>Classroom rhythm is adequate.</i> This T adapts to our learning rhythm: He/she gives us time to think.
<i>Teacher uses feedback that helps to learn from errors.</i> This T makes feel you that you can learn from errors.
<i>Teacher assesses "for" learning.</i> (-) This T gives exams that have little to do with classroom work.
<i>Teacher praises student's progress.</i> This T praises our effort to learn at every occasion.
<i>Teacher treats pupils with equity.</i> (-) This T pays more attention to most intelligent pupils.
<i>Teacher cares from each pupil.</i> (-) Few pupils ask questions because this T is aloof and does not help.

Nevertheless, the use of CMCQ's strategies does not have the same effect either on every kind of student, on students of different gender or in every context. The first of the two studies of Alonso-Tapia and Fernández-Heredia (2008, 2009) revealed that, from the strategies than configure the CMC, "*Teacher supports autonomy*" is more indicative of a "classroom climate oriented to learning" for high school (HS) students than for secondary school (SS) students. This same fact was found in the second study, with Mexican students. Besides, in this study, the degree in which "*Teacher uses*

feedback that helps to learn from errors” and in which *“he/she cares for each pupil”* is more indicative of such a climate for SS than for HS students. Other differences were found between students of the two countries within the same school level.

In the study carried out with Spanish students and immigrant students by Alonso-Tapia and Simón (2012), it was found that teaching patterns considered objectively more important for promoting learning - for example, being taught how to work step by step - are considered less important for a learning climate by immigrant students than by Spanish students. On the contrary, immigrant students considered in greater degree than Spanish students that *“promoting public participation”* and *“praising students for personal achievement”* are more indicative patterns of a learning oriented motivational climate.

In a final study, Alonso-Tapia and Moral (2010) found also differences between the value that HS students and non-university adults confer to different aspects of teacher’s activity when considering to what extent their classroom motivational climate is learning oriented. Their results showed, on one hand, that HS students value more than adults that *“Classroom activity is well organized”*, and, on the other hand, that adults give more importance than adolescents to the fact that the *“teacher helps them to learn from their own mistakes”*.

As for gender differences, Sinclair and Fraser (2002) found that boys and girls have different perceptions of classroom learning climate and concluded that when this happens, environmental change attempts need to involve different interventions for students of different genders. So, it was considered interesting to test whether similar implications could be derived from our study on CMC.

The results just described suggest the need to go on looking for the kinds of differences between students from different cultural contexts, and it is what we did in the present study with secondary and vocational education and high school French

students. A different cultural and language context would allow us to test whether there are differences between the structure of the CMC in both countries, and of deducing the measurement and educational implications of such differences if they were present.

Method

Participants

The sample was chosen for reasons of convenience. A total of 749 French students from Poitiers (253 males and 496 females, 33.7% and 66.3%) participated in this study. They were students from secondary education, high school and vocational education. The age spanned from 14 until 23 years old (Mean: 17.09; SD: 1.59). The sample was randomly divided into three sub-samples with equal number of subjects. The first sample was used for carrying out the initial analysis and the rest, for cross-validating the results.

Materials

In order to test our hypotheses, the following instruments were used:

a) *The Classroom Motivation Climate Questionnaire, CMCQ* (Alonso-Tapia & Fernández-Heredia, 2008), translated to French. It includes 32 items, which measure the degree in which the teacher makes use of 16 strategies or teaching patterns (represented together with examples in Table 6.1). It is supposed that the presence or absence of such patterns can affect learning motivation in opposite ways. The items were answered in a five-point Likert scale, in which the students decided on the degree of agreement with their content. With the aim of avoiding the acquiescence phenomenon when answering, the patterns were assessed through two items, one positive and another negative. The psychometric features of the CMCQ in previous studies were satisfactory, with reliability indexes between .92 and .93.

b) Five independent scales designed for assessing the *Perceived teacher role in changing student's motivational characteristics, as well as student's satisfaction with*

teacher's work, all of them translated to French: 1) interest in subject attributed to teacher's work ($\alpha = .72$), 2) effort favored by teacher's work ($\alpha = .69$), 3) perceived ability due to teacher's work ($\alpha = .74$), 4) success expectancies due to teacher's work ($\alpha = .65$), and 5) satisfaction with teacher's work ($\alpha = .72$). The first four characteristics had been shown to be sensitive to changes in classroom climate as well as good predictors of students' satisfaction with teachers' work (Alonso-Tapia & Fernández-Heredia, 2008). Examples of items of these scales are shown in Table 6.2.

Table 6.2.
Item examples of scales assessing the role attributed to teacher in variables assessing different aspects of perceived motivational change.

<i>Scale</i>	<i>Item example</i>
<i>Interest</i>	<i>If I am very interested in this subject, it is due to the way we work with this teacher.</i>
<i>Perceived ability</i>	<i>A good quality of this teacher is that he/she makes me feel able enough to learn by myself.</i>
<i>Effort</i>	<i>Thanks to the way this teacher encourages me, I try to learn more and more.</i>
<i>Success expectancies</i>	<i>Taking into account the way in which this teacher teaches, it is unlikely for me to get good marks. (-)</i>
<i>Satisfaction</i>	<i>If one could choose the teacher, I would suggest my peers to choose my own one without doubting it at all.</i>

Procedure

In order to preserve anonymity and to avoid lost values, data were collected by computer. The students filled in the questionnaires in 50-minute sessions, divided according to the groups and courses to which they belonged. One of the researchers stayed in the classroom during their completion and provided precise instructions, so that students could fill in the questionnaires in relation to the teacher and subject they had to take as reference.

Data analyses

Once the questionnaires were gathered, the correlations between all the variables in CMC were calculated (see Table 6.3). Then several confirmatory factor analyses were

carried out with the aim of testing whether French data fit the model, and also whether they were similar to those of the original studies carried out with the Spanish sample.

Table 6.3.

Correlations between CMC observed variables. SPANISH SAMPLE (Above diagonal) and FRENCH SAMPLE (Below diagonal).

	TUV ¹	TAPK	TRT	TIP	TML	LOCS	CAWO	TSA	TSS	TUE	CRA	TUF	TAFL	TPP	TTE	TCP
TUV	1	,510**	,379**	,488**	,534**	,549**	,456**	,244**	,541**	,538**	,335**	,341**	,372**	,454**	,391**	,569**
TAPK	,408**	1	,397**	,485**	,443**	,484**	,450**	,287**	,494**	,464**	,510**	,358**	,360**	,390**	,335**	,402**
TRT	,369**	,397**	1	,480**	,480**	,480**	,396**	,340**	,482**	,338**	,440**	,351**	,320**	,444**	,325**	,424**
TIP	,427**	,385**	,387**	1	,534**	,543**	,551**	,438**	,618**	,374**	,505**	,509**	,400**	,466**	,525**	,537**
TML	,422**	,333**	,372**	,454**	1	,532**	,514**	,397**	,509**	,485**	,545**	,388**	,455**	,542**	,447**	,530**
LOCS	,470**	,395**	,370**	,413**	,371**	1	,599**	,379**	,589**	,471**	,507**	,429**	,480**	,531**	,410**	,570**
CAWO	,433**	,468**	,375**	,479**	,325**	,580**	1	,389**	,585**	,357**	,598**	,456**	,460**	,502**	,590**	,613**
TSA	,487**	,402**	,373**	,546**	,395**	,420**	,427**	1	,430**	,179**	,315**	,335**	,222**	,305**	,344**	,294**
TSS	,457**	,485**	,372**	,412**	,347**	,470**	,516**	,492**	1	,509**	,548**	,467**	,339**	,474**	,460**	,572**
TUE	,418**	,415**	,340**	,387**	,319**	,362**	,419**	,377**	,412**	1	,356**	,307**	,281**	,413**	,276**	,444**
CRA	,464**	,436**	,380**	,483**	,361**	,519**	,477**	,508**	,483**	,360**	1	,514**	,346**	,488**	,490**	,400**
TUF	,313**	,286**	,304**	,344**	,226**	,378**	,434**	,278**	,371**	,334**	,314**	1	,305**	,469**	,537**	,443**
TAFL	,432**	,385**	,321**	,453**	,352**	,428**	,457**	,489**	,421**	,343**	,532**	,296**	1	,342**	,420**	,519**
TPP	,432**	,357**	,341**	,464**	,357**	,420**	,417**	,478**	,402**	,366**	,447**	,326**	,471**	1	,417**	,535**
TTE	,449**	,480**	,370**	,495**	,372**	,422**	,540**	,480**	,478**	,350**	,504**	,346**	,522**	,472**	1	,476**
TCP	,484**	,429**	,417**	,593**	,435**	,412**	,499**	,526**	,421**	,449**	,507**	,304**	,479**	,504**	,486**	1

¹TUV: Teacher makes use of novelty; TAPK: Teacher assesses previous knowledge; TRT: Teacher relates different topics; TIP: Teacher induces public participation; TML: Teacher's messages orient to learning; LOCS: Learning objectives are clearly stated; CAWO: Classroom activity is well organized; TSA: Teacher supports autonomy; TSS: Teacher teaches to work step by step; TUE: Teacher uses many examples; CRA: Classroom rhythm is adequate; TUF: Teacher uses feedback that help to learn from errors; TAFL: Teacher assesses "for" learning; TPP: Teacher praises student's progress; TTE: Teacher treats pupils with equity; TCP: Teacher cares for each pupil.

First, the structure suggested by the original work of Alonso-Tapia and Fernández-Heredia (2008), in which all indicators saturated in one unique factor, based on theoretical considerations, was used as baseline model in order to estimate the data fit to the structure by means of confirmatory techniques (CFA-1) using the AMOS program (Arbuckle, 2003). Estimates were obtained using the maximum likelihood method. In order to estimate model-fit, absolute fit indexes (χ^2 , χ^2/df , GFI), incremental fit indexes (IFI) and non-centrality fit indexes (CFI, RMSEA) were used, as well as criteria for acceptance or rejection of the degree of adjustment described by Hair, Black, Babin, Anderson and Tathan (2006). As previous analyses modifying the variable used for fixing the model had shown that there were no differences in fit indexes, it was decided to use the same variable of previous studies - "Teacher uses feedback" -, as it had been the one with the greatest load.

Second, two multi-group confirmatory analyses were carried out in order to cross-validate the results of the previous analysis. The first analysis was carried out using the three French sub-samples, and the second one using the Spanish sample (N = 212) and a French sub-sample composed of those students whose age was similar to that of the Spanish sample (N = 525). The theoretical model proposed was used as baseline for comparison without any restriction for parameter equality between samples. Against this model, several models were estimated and compared, in which equality between the groups was imposed for different sets of parameters. The relative decline in goodness-of-fit was assessed by means of the difference in the chi-square statistic between the model with restrictions imposed, and the model without restrictions. In case of significant decline in goodness-of-fit, it was decided to analyze the reasons of such decline testing which differences between regression weights were significant with the Z-test of Clogg, Petkova and Haritou (1995).

Third, with the aim of testing whether gender had a significant effect on the structure

of motivational climate questionnaire, the French sample was divided into two subsamples by gender, and a re-estimation by groups was carried out.

Fourth, the reliability of CMCQ and of the rest of the scales was calculated for the French sample.

Five, in order to get additional information on the external validity of the CMCQ, correlations between this questionnaire and the motivational variables which may depend on it - interest, perceived ability, effort and outcome expectancies - were calculated. Moreover, regression analyses were carried out using the backward method in order to estimate the degree in which CMC and the aforementioned motivational variables allowed predicting "Satisfaction with teacher's work".

Finally, in order to see whether the CMC created by different teachers was significantly different, every teacher received the mean of his/her pupils' score in the CMC, and a one-factor ANOVA was carried out.

Results

Initial confirmatory factor analysis

Figure 6.1 shows the standardized estimates of the confirmatory model, as well as the squared multiple correlations. All the loadings (λ) were significant ($p < .001$). Table 6.4 shows the fit statistics of the proposed model (CFA-1). Chi-square statistic was significant, probably due to the sample size (Hair et al., 2006), but the ratio χ^2/df ($\chi^2/df = 2.03 < 5$) and the remaining adjustment indexes were well inside the limits that allowed the model to be accepted: RMSEA = .06 < .08, IFI = .94 > .90; GFI = .90 = .90; and CFI = .94 > .90.

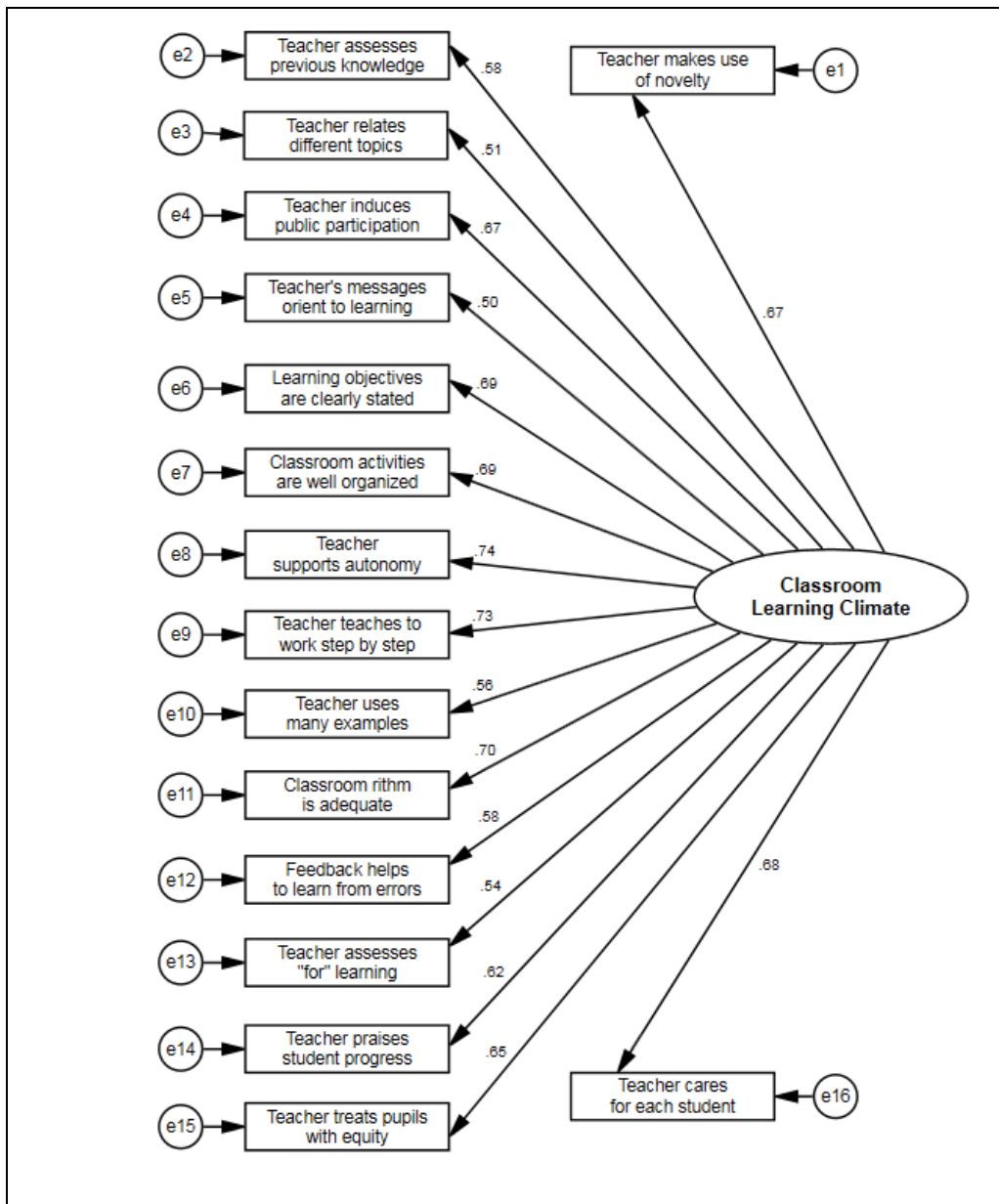


Figure 6.1. CMCQ: Initial confirmatory standardized solution.

Table 6.4

Goodness-of-fit statistics for CMC of base model, of multi-group cross-validation analysis (CVA), and of multi-group analysis by gender.

	χ^2	df	p	χ^2/df	GFI	IFI	CFI	RMSEA
CFA-1 (N=245) Base line model	213.17	105	.000	2.03	.90	.94	.94	.06
CFA-2. Cross V (N: 245, 248, 256)	629.69	315	.000	1.99	.90	.94	.94	.03
CFA-3 France- Spain (N: 525, 212)	535.96	210	.000	2.55	.92	.94	.94	.04
CFA-4 Males- Females (N: 253,496)	511.85	210	.000	2.43	.92	.94	.94	.04

Multi-group cross-validation analyses (CFA-2)

In order to test the validity of the model, a multi-group analysis was carried out using the three sub-samples in which the total sample had been divided (N = 245, 248 and 256). Again, chi-square was significant, probably due to sample size, but all the other statistics were well inside the limits that allowed the model to be accepted: the ratio $\chi^2/df = 1.99 < 5$, RMSEA = .03 < .08, GFI = .90 = .90, CFI = .94 > .90 and IFI = .94 > .90. Moreover, comparison statistics included in Table 6.5 show that fit is not reduced even if restrictions on measurement weights, measurement intercepts and measurement residuals were imposed. Therefore, it may be concluded that the model is well estimated, and so it should not be rejected.

Table 6.5

CFA-2 Cross-validation of the model using multi-group analyses with three different samples.
Chi-square differences for model comparison against the unconstrained multi-sample model.

Analysis	Model	DF	Chi-square	P
CFA-2: Cross Validation	Measurement weights	30	34.29	.26
	Measurement intercepts	62	70.91	.20
	Measurement residuals	94	95.76	.43
CFA-3: France-Spain	Measurement weights	15	73.74	.00
	Measurement intercepts	31	329.11	.00
	Measurement residuals	47	464.89	.00
CFA-4: Males-Females	Measurement weights	15	17.36	.29
	Measurement intercepts	31	37.27	.20
	Measurement residuals	47	50.98	.32

Multi-group analysis France-Spain

Results obtained in both countries were compared using, in addition to the group of French students of high school, the group of similar age of the study of Alonso-Tapia and Fernández-Heredia (2008). Related to this analysis, fit indexes fell inside acceptable limits (Table 6.3, CFA-3). However, the model comparison statistics presented in Table 6.4 (CFA-3) show that fit was significantly reduced when restrictions on regression weights, measurement intercepts and on equality for residuals were

imposed. This means that French and Spanish students' estimations of the motivational value of teaching patterns differ in some aspects. Therefore, in order to know which patterns of teacher's activity were valued in different degree by the students of each country, regression weights were compared using the Z statistic of Clogg et al. (1995). As can be seen in Table 6.6, there were significant differences in weights of ten components of the CMC ($z > 1.96$). Only in one case French students valued a teaching pattern in greater and significant degree than Spanish students (*-Teacher supports autonomy-*; difference: .37; $z = 4.79$). This fact implies that such pattern is perceived as more important for motivation in France than in Spain. The opposite happens in the remaining cases.

Multi-group analysis by gender

The third multi-group analysis tested the validity of the structure identified as a function of gender. Again it can be seen that the fit indexes χ^2/df , RMSEA, GFI, CFI and IFI were inside acceptable limits (see Table 6.3, CFA-4 Males/Females). Besides, statistics' results corresponding to model comparison, presented in Table 6.4 (CFA-4), showed that fit is not significantly reduced even considering different restrictions that were imposed. Therefore, it can be concluded that the model is equally valid both for males and females, and so it should not be rejected.

Table 6.6

Differences between measurement weights in CMCQ of French and Spanish students.

Teaching pattern	Beta France	Se ¹ France	Beta Spain	Se Spain	Difference	Z Clogg
<i>Teacher makes use of novelty</i>	1.12	.07	1.20	.11	-.09	-1.08
<i>Teacher assesses previous knowledge</i>	1.02	.07	1.16	.12	-.14	-1.73
<i>Teacher relates different topics</i>	.82	.07	1.08	.12	-.26	-3.32
<i>Teacher induces public participation</i>	1.16	.07	1.51	.12	-.36	-4.38
<i>Teacher's messages orient to learning</i>	.83	.06	1.36	.11	-.53	-7.18
<i>Learning objectives are clearly stated</i>	1.04	.07	1.36	.11	-.32	-4.07
<i>Classroom activity is well organized</i>	1.09	.06	1.45	.11	-.36	-4.93
<i>Teacher supports autonomy</i>	1.14	.07	.77	.11	.37	4.79
<i>Teacher teaches to work step by step</i>	1.05	.06	1.56	.12	-.51	-6.80
<i>Teacher uses many examples</i>	1.09	.08	1.11	.13	-.02	-.25
<i>Classroom rhythm is adequate</i>	1.32	.07	1.27	.12	.05	.61
<i>Teacher uses feedback</i>	1.00	.00	1.00	.00	.00	.00
<i>Teacher assesses "for" learning</i>	.71	.07	1.11	.13	-.40	-4.80
<i>Teacher praises student's progress</i>	1.09	.07	1.27	.12	-.17	-1.98
<i>Teacher treats pupils with equity</i>	1.34	.08	1.45	.15	-.11	-1.18
<i>Teacher cares for each student</i>	1.21	.06	1.46	.12	-.24	-3.10

¹ Se: Standard error

Reliability analysis

The results in the diagonal of Table 6.7 show the Cronbach's coefficient for the CMCQ and for the remaining scales. The reliability index of the CMCQ was excellent ($\alpha = .93$) and similar to the coefficients of this scale found in previous studies. On the other hand, reliability indexes of the rest of scales were acceptable enough for corresponding scores to be used if needed, though some of them are a bit low.

Correlation analyses

Table 6.7 shows correlations between the CMC, the motivational variables that can depend on it, and satisfaction with teacher's work. As can be seen, CMC correlates in a positive and significant way with every specific motivational variable potentially sensitive to environment's influence to which it could affect (change in interest, in perceived ability, in effort, and in success expectancies), as well as with satisfaction with teacher's work. The correlations between the aforementioned motivational

variables are similar to those found in earlier studies with adults (Alonso-Tapia & Moral, 2010).

Table 6.7

Correlations and internal consistency of the scales^{1,2}.

N = 452	CMC	INT	PA	EF	SE	SAT
Classroom motivational climate oriented to learning (CMC)	.93	.694**	.677**	.625**	.686**	.767**
Interest attributed to teacher work (INT)		.74	.696**	.636**	.711**	.754**
Perceived ability attributed to teacher work (PA)			.66	.639**	.686**	.727**
Effort disposition attributed to teacher work (EF)				.59	.629**	.672**
Success expectancies attributed to teacher work (SE)					.67	.746**
Satisfaction with teacher work (SAT)						.80

¹ Values in the diagonal correspond to the internal consistency of the scales. ² ** = value significant at 1%.

Regression analysis

A regression analysis was carried out using the backward method in order to see the relative degree in which CMC and motivational variables that may depend on it - change in interest, perceived ability, effort and success expectancies - contributed to predict the degree satisfaction with teacher's work. As it can be seen in Table 6.8, this last variable was mainly influenced by classroom climate, although all variables had a very significant weight.

Table 6.8

Regression analysis. Criterion: Satisfaction Attributed to teacher's work.

<i>R</i>	<i>R</i> ²	<i>P</i>	Predictors: Standardized Regression Coefficients				
			CMC	Change in Interest	Change in Perceived ability	Change in effort	Change in success expectancies
.86	.74	.000	.29***	.21***	.16***	.12***	.21***

CMC: Classroom Motivational Climate; *** $p < .001$.

ANOVA of CMC differences between teachers

Scores of teachers from 39 different classrooms were analyzed. Differences in CMC were highly significant ($F_{gl: 38, 710} = 10.33, p < .0001$). The rank of teachers' scores went from 92 to 140.

Discussion

The aim of this article was to test whether the characteristics defining a CMC learning oriented for teenagers were the same in different cultural contexts as, if it was the case, this fact would have theoretical and practical implications. In order to achieve this objective, the structure of the CMCQ in a sample of French students was identified and compared with the structure identified in Spanish students. Now the question is: what have the results highlighted?

First of all, the results obtained point out that the way in which classroom motivational climate is operationalized through the CMCQ is valid not only in Spain but also in France, both for secondary school and for vocational education. Results showed, in France as in Spain, that the CMCQ has a well estimated structure, and the results of the different AFCs - based on randomly or gender set groups - support this conclusion. This result means that there are a series of teaching strategies - those included in the CMCQ (see Table 6.1) - that - in the degree in which they are used together - turn out to be motivating for most of the students - Spanish (Alonso-Tapia & Fernández-Heredia, 2008), Mexican (Alonso-Tapia & Fernández-Heredia, 2009) and French (this study). The generalized use of such strategies within the teaching activity would favor motivation for learning of most of students.

Second, some studies reviewed by Plaut and Markus (2005) have shown that people from different countries have different models of competence and motivation that influence the way they behave in teaching and learning contexts. Our results extend their analysis showing that there are also significant differences in the way of perceiving

the motivational value of teaching patterns between French and Spanish students. Specifically, the fact of “promoting autonomy” is valued more positively in France than in Spain as a good indicator of a learning-oriented CMC, whereas the opposite happens with most teaching patterns included in the CMCQ, whose motivational value is greater for Spanish than for French students. So, it is convenient to take into account this fact in order to improve adjustment of actions aimed to create a motivation-enhancing environment.

Third, in line with previous studies (Alonso-Tapia & Fernández-Heredia, 2008; Alonso-Tapia & Moral, 2010), students associate the presence of teaching patterns included in the CMCQ to positive changes in interest, perceived ability (self-efficacy), success expectancies, and effort. This fact suggests that CMC can affect not only the adoption of learning goals by students, but also the degree of self-efficacy perception and the anticipation of positive consequences when learning, as well as the enhancement of the interest in the subject.

Fourth, regression analyses have shown that “Satisfaction with teacher work” depends mainly on CMC and on perceived change in motivational variables that, in turn, is attributed to CMC. This result highlights again the importance of creating a learning oriented CMC paying attention first, at least to the whole set of patterns included in CMC, and second, to those patterns that, according to cross-cultural studies like this one, show which of these patterns are especially important for motivating students of particular cultural contexts or educational levels.

Five, the fact that there are differences not only between students, but also between “groups” of students of different teachers, raises an important question with theoretical and practical implications: which teachers’ characteristics are responsible for such differences between groups? This is an important question because training programs aimed to enable teachers for motivating their students should focus on such

characteristics. The fact that a teacher creates or not an adequate CMC may depend on teacher's motivational knowledge, on his/her expectancies and goals related to students, on acquired teaching habits, etc. This question has not been adequately studied. Haselhuhn, Al-Mabuk and Gabriele (2007), based on evidence gathered from 97 teachers, suggested that specific classroom practices and teaching behaviors depend on teacher's knowledge and beliefs. However, the "dependent variable" was assessed asking teachers to rate their own classroom goal structures and practices, a fact that may have provided a view of what happens in the classroom that does not correspond to the students' view. This fact means that we cannot be sure that differences in CMC perceived by students, and whose power for predicting changes in different motivational variables is high, depend on the teachers' characteristics above mentioned. So, this is a question to be studied.

Limitations and new research questions

The present study has some limitations that raise new research questions. The dependent variables have been motivational, and so, results do not provide information of CMC relation with achievement. A previous study (Alonso-Tapia & Moral, 2010) has provided some evidence, but it is scarce and so this point deserves to be investigated.

Moreover, CMC is only a part of classroom climate, as this one also includes classroom discipline climate (managing) and classroom emotional climate (Evans, Harvey, Buckley, & Yan, 2009). It may be that classroom motivational climate adequacy is conditioned not only by the aforementioned 16 variables and assessed by CMCQ, but also by those configuring discipline climate (Almog & Shechtman, 2007; Furlong, Morrison, & Fisher, 2005; Infantino & Little, 2005) or emotional climate. In relation to this last possibility, several studies have obtained results indicating that adolescents' academic motivation level is greatly influenced by their perceptions of the

level of support and encouragement provided by parents and teachers (Eccles & Jacobs, 1986; Grolnick, Gurland, Jacob, & Decourcey, 2002; Grolnick & Ryan, 1989; Wigfield & Eccles, 1992). On the other hand, the quality, quantity and directions of the relationships (between teachers and students, and among students themselves) influence the social climate, affecting further students' self-concept, motivation and performance (Fraser, Aldridge, & Adolphe, 2010). This would indicate that social climate is an aspect that might affect or be affected by CMC, a point that deserves also being investigated.

Finally, there are factors than can modulate student's perception of CMC, such as their expectancies, motivational orientations, student's knowledge and study strategies, etc., as students enter the classroom with these characteristics. There is also some evidence on the role of such factors, but is not concluding (Alonso-Tapia & Fernández-Heredia, 2009; Alonso-Tapia & Villasana, 2014). So the moderating role that such variables can play on how students perceive the CMC should also be investigated.

References

- Almog, O., & Shechtman, Z. (2007). Teachers' democratic and efficacy beliefs and styles of coping with behavioural problems of pupils with special needs. *European Journal of Special Needs Education, 22*(2), 115-129. <http://dx.doi.org/10.1080/08856250701267774>
- Alonso-Tapia, J. (2005). Motivaciones, expectativas y valores-intereses relacionados con el aprendizaje [Motives, expectancies and values; learning-related interests]. *Psicothema, 17*(3), 404-411.
- Alonso-Tapia, J., & Fernández-Heredia, B. (2008). Development and initial validation of the Classroom Motivational Climate Questionnaire (CMC-Q). *Psicothema, 20*(4), 883-889.

- Alonso-Tapia, J., & Fernández-Heredia, B. (2009). Cuestionario de clima motivacional de clase: Un estudio de su validez transcultural. *Infancia y Aprendizaje*, 32(4), 598-612.
- Alonso-Tapia, J., Huertas, J. A., & Ruiz, M. A. (2010). On the nature of motivational orientations: Implications of assessed goals and gender differences for motivational goal theory. *The Spanish Journal of Psychology*, 13(1), 232-242.
- Alonso-Tapia, J., & Moral, M. A. (2010). Percepción del Clima Motivacional de Clase en Estudiantes Adultos no Universitarios [Perception of classroom motivational climate in adult non-university students]. *Psicología Educativa*, 16(2), 115-133.
- Alonso-Tapia J., Nieto, C., & Ruiz, M. A. (2013). Measuring subjective resilience despite adversity due to family, peers and teachers. *The Spanish Journal of Psychology*, 16, E19. doi:10.1017/sjp.2013.33
- Alonso-Tapia, J., Panadero, E., & Ruiz, M. A. D. (2014). Development and validity of the Emotion and Motivation Self-regulation Questionnaire (EMSR-Q). *The Spanish Journal of Psychology*, 17, E55. doi: 10.1017/sjp.2014.41
- Alonso-Tapia, J., & Pardo, A. (2006). Assessment of learning environment motivational quality from the point of view of secondary and high school learners. *Learning and Instruction*, 16(4), 295-309. doi:10.1016/j.learninstruc.2006.07.002
- Alonso-Tapia, J., & Ruiz, M. A. (2007). Motives related to learning and perceptions of environment motivational quality: how do they interact in university students. *Psicothema*, 19(4), 602-608.
- Alonso-Tapia, J., & Simón, C. (2012). Differences between immigrant and national students in motivational variables and classroom-motivational-climate perception. *The Spanish Journal of Psychology*, 15(1), 61-74.
- Alonso-Tapia, J., & Villasana, M. (2014). Assessment of subjective resilience: cross-cultural validity and educational implications/Evaluación de la resiliencia subjetiva:

- validez transcultural e implicaciones educativas del 'Cuestionario de Resiliencia Subjetiva' (SRQ). *Infancia y Aprendizaje. Journal for the Study of Education and Development*, 37(3), 629-664. <http://dx.doi.org/10.1080/02103702.2014.965462>
- Ames, C. (1992). Achievement goals and the classroom motivational climate. In D. H. Schunk, & J. L. Meece (Eds.), *Student perceptions in the classroom* (pp. 327-348). New York: Lawrence Erlbaum.
- Arbuckle, J. L. (2003). *Amos 5.0 Update to the Amos User's Guide*. Chicago: Small Waters.
- Assor, A., Kaplan, H., & Roth, G. (2002). Choice is good but relevance is excellent: Autonomy affecting teacher behaviors that predict students' engagement in learning. *British Journal of Educational Psychology*, 72(2), 261-278.
- Clogg, C. C., Petkova, E., & Haritou, A. (1995). Statistical methods for comparing regression coefficients between models. *The American Journal of Sociology*, 100(5), 1261-1293. doi:10.1086/230638
- Covington, M. V. (2002). Goal theory, motivation, and school achievement: An integrative review. *Annual Review of Psychology*, 51(1), 171-200.
- De Corte, E. E., Verschaffel, L. E., Entwistle, N. E., & Van Merriënboer, J. E. (2003). *Powerful learning environments: Unravelling basic components and dimensions*. Pergamon/Elsevier Science Ltd.
- Deci, E. L., & Ryan, R. M. (2002). *Handbook of self-determination research*. Rochester, NY: University of Rochester Press.
- Dweck, C., & Elliot, D. S. (1983). Achievement motivation. In P. H. Mussen (gen. Ed.), & E. M. Hetherington (vol. Ed.), *Handbook of child psychology. Vol IV: Social and personality development* (pp. 643-691). New York, NY: Wiley.
- Eccles, J. S., & Jacobs, J. E. (1986). Social forces shape math attitudes and performance. *Signs*, 11(2), 367-380.

- Eccles, J. S., & Wigfield, A. (2002). Motivational Beliefs, values, and goals. *Annual review of psychology*, 53(1), 109-132.
- Elliot, A. J. (2005). A conceptual history of achievement goal construct. In A. J. Elliot & C. Dweck (Eds.): *Handbook of competence and motivation*, 16(2005), 52-72. New York: Guilford.
- Evans I. M., Harvey, S. T., Buckley, L., & Yan, E. (2009). Differentiating classroom climate concepts: Academic, management, and emotional environments. *Kōtuitui: New Zealand Journal of Social Sciences Online*, 4(2), 131-146.
<http://dx.doi.org/10.1080/1177083X.2009.9522449>
- Franzé, A. (2002). *“Lo que sabía, no valía”*: escuela, diversidad e inmigración. Madrid: Consejo Económico y Social de la Comunidad de Madrid.
- Fraser, B. J., Aldridge, J. M., & Adolphe, F. G. (2010). A cross-national study of secondary science classroom environments in Australia and Indonesia. *Research in Science Education*, 40(4), 551-571. DOI 10.1007/s11165-009-9133
- Furlong, M. J., Morrison, G. M., & Fisher, E. S. (2005). The influences of the school contexts and processes on violence and disruption in American schools. In P. Clough, P. Garner, J. T. Pardeck, & F. Yuen (Eds.), *Handbook of emotional & behavioural difficulties* (pp. 123-139). London, UK: SAGE Publications.
- Grolnick, W. S., Gurland, S. T., Jacob, K. F., & Decourcey, W. (2002). The development of self-determination in middle childhood and adolescence. In A. Wigfield & J. Eccles (Eds.), *Development of achievement motivation* (pp. 147-171). San Diego: Academic Press.
- Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology*, 81(2), 143-154.

- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tathan, R. L. (2006). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson-Prentice Hall.
- Haselhuhn, C. W., Al-Mabuk, R., & Gabriele, A. (2007). Promoting positive achievement in the Middle School: A look at teachers' motivational knowledge, beliefs, and teaching practices. *Research in Middle Level Education*, 30(9), 1-20.
- Infantino, J., & Little, E. (2005). Students' perceptions of classroom behaviour problems and the effectiveness of different disciplinary methods. *Educational Psychology*, 25(5), 491-508. <http://dx.doi.org/10.1080/01443410500046549>
- Núñez, J. C., Vallejo, G., Rosario, P., Tuero, E., & Valle, A. (2014). Student, teacher, and school context variables predicting academic achievement in Biology: Analysis from a multilevel perspective. *Revista de Psicodidáctica*, 19(1), 145-171. doi: 10.1387/RevPsicodidact.7127
- Patrick, H., Kaplan, A., & Ryan, A. M. (2011). Positive classroom motivational environments: Convergence between mastery goal structure and classroom social climate. *Journal of Educational Psychology*, 103(2), 367-382.
doi: 10.1037/a0023311
- Plaut, V. C., & Markus, H. R. (2005). The "inside" story: A cultural-historical analysis of being smart and motivated, American style. In Elliot, A., & Dweck, C. (2005). *Handbook of competence and motivation* (pp. 457-488). New York, NY: Guilford Press.
- Salili, F., & Hoosain, R. (2007). *Culture, motivation and learning: A multicultural perspective*. New York: Information Age Publishing.
- Sinclair, B. B., & Fraser, B. J. (2002). Changing classroom environments in urban middle schools. *Learning Environments Research*, 5(3), 301-328.
doi: 10.1023/A:1021976307020

- Urdu, T., & Turner, J. C. (2005). Competence Motivation in the Classroom. In Elliot, A. / Dweck, C. (2005). *Handbook of competence and motivation* (pp. 297-317). New York, Guilford Press.
- Wigfield, A., & Eccles J. S. (1992). The development of achievement task values: A theoretical analysis. *Developmental Review*, 12(3), 265-310.
- Zimmerman, B. J., & Schunk, D. H. (2008). Motivation: An essential dimension of self-regulated learning. In D. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning: Theory, research, and applications* (pp. 1-30). Mahwah, NJ: Erlbaum.

CHAPTER VII

Article 6. Learning environmental factors affecting the perceived change in academic resilience

Learning environmental factors affecting the perceived change in academic resilience

Mercedes Villasana and Jesús Alonso-Tapia

Abstract

Given resilience's importance through adolescence, and with the aim of promoting positive adaptation when facing difficulties in an instructional context, it becomes relevant to analyze how educators can enhance academic resilience. The goal of this study was to determine to what extent the classroom motivational climate and the students' expectations influence resilience, resulting in a change in it. With this purpose, 749 Secondary and High School French students filled in a questionnaire of resilience and another of motivational climate, a success expectancy scale and five independent scales aimed at assessing teacher's role in modifying student's motivational characteristics. Regression analyses using confirmatory techniques (PALV) determined that change in academic resilience depends not that much on student's expectations or on his/her initial resilience, but mainly on motivational climate created by the teacher.

Keywords: classroom motivational climate; academic resilience; success expectancies; learning motivation; student's satisfaction.

Theoretical framework

In school or at home, adolescents have to cope not only with the stress generated by study pressures and setbacks in relation to their academic work, but also with stress generated by teachers, peers and family attitudes towards them. When trying to cope with such minor or major adversities, it is a fact that many adolescents sink, whereas others become stronger, that is, they are academically resilient (Martin & Marsh, 2009), as they are able of positive adaptation or recovery despite experiences of significant adversity (Luthar, 2006). The fact just mentioned raises two important questions: 1) on which psychological factors does academic resilience depend? 2) How academic resilience can be enhanced by educators –especially teachers and parents-?

This study tries to find an answer to the second question, focusing on school environment, with the objective of enlightening how a teacher can contribute to improve his/her students' academic resilience, as it manifests in the student's own perception. Nevertheless, it is necessary first to know the psychological factors that contribute to student resilience or lack of it, especially those related to adversities experienced at school. This knowledge would provide criteria for looking into classrooms in search of teaching patterns that may contribute to enhance resilience. The main contributions to understand which psychological factors contribute to resilience in academic contexts come from the work on motivation and the work on coping. Hence, they are considered next.

Motivation and resilience. Students do not only need achievement motivation to succeed at school. They need also being able to deal with the setbacks, study pressure and stress generated by academic activities and eventual teachers' and peers' attitudes, that is, they need to buoy up on adversities in order to be resilient (Martin, 2002; Yeager & Dweck, 2012). Motivation theories have contributed important clues to identify why

many students may not be resilient even if they are highly motivated or, on the contrary, why many others manage to bounce back after adversity.

On one side, students high in fear of failure (Atkinson, 1957), who tend to attribute failures to factors out of their control (Weiner, 1986), or with low self-efficacy and control expectancies (Bandura, 1997) tend to confront academic and social adversities with thinking and self-regulatory processes that do not favor overcoming them. The same happens to students who are avoidance oriented instead of learning oriented (Good & Dweck, 2006; Linnenbrink-García et al., 2012), state instead of action oriented (Kuhl, 1994), or to students that have an entity theory of intelligence (Yeager & Dweck, 2012). Their expectancies and thinking processes when confronting a task, their self-regulatory processes focused on difficulties and on the possibility of failure, and the fact that they tend to attribute academic and social failures to causes implying lack of ability and control, prevent them from bouncing back from adversities, that is, from being resilient.

On the other side, students high in achievement need -who attribute failures to factors that they can control, that believe that they can learn how to overcome failures and to cope with difficulties, that are mastery instead of avoidance oriented- tend to confront setbacks, study pressure and stress in a completely different way. According to the same authors quoted in the above paragraph, these students tend to think how they can overcome difficulties. They tend to focus also on the search for actions to solve the problems instead of focusing on the emotional experience generated by adversities. Finally, they tend as well to focus on the strategies they follow when confronting a task instead of on the difficulties they are experiencing.

In the light of the above facts, it can be hypothesized that teaching patterns aimed at enhancing student motivation, at achieving students' change in self-beliefs and

expectancies as well as in their attitudes towards learning, effort and strategy may affect resilience positively.

Coping and resilience. Resilience – the positive adaptation despite experiences of significant adversity (Luthar, 2006) - is a phenomenon (Leipold & Greve, 2009) that may depend on dynamic psychological processes, such as the use of coping strategies, and/or personality factors (Masten, 2007). Research on differences responsible for adolescents' efficiency in managing stressful situations has focused mainly on coping strategies and styles (Skinner, Edge, Altman, & Sherwood, 2003; Skinner & Zimmer-Gembeck, 2007), though some authors have also studied the role of personality factors (Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003; Prince-Embury, 2007; Prince-Embury & Saklofske, 2013, 2014). Available evidence on these two lines of work supports three important conclusions. First, coping strategies conforming the Problem-Focused Coping style (PFC) –look for problem-solving, positive thinking, etc.- (Lazarus & Folkman, 1984) are those most positively associated to well-being and resilience, whereas coping strategies conforming the Emotion Focused Coping style (EFC) are negatively associated which such adaptation criteria (Kato, 2013; Villasana, Alonso-Tapia, & Ruiz, 2016). Second, personality factors such as sense of mastery –a factor including the sub-factors of optimism, self-efficacy and adaptability- are positively associated to resilience, whereas those such as emotional reactivity - a factor including at least the sub-factors of sensitivity and impairment - are negatively associated to the same adaptation criteria (Prince-Embury & Saklofske, 2013, 2014). Some of the specific personality sub-factors are the same considered by Martin (2002) as motivational factors related to resilience. Third, recent studies on the relation between coping strategies and styles, personality factors and resilience have shown that coping strategies are the main responsible for resilience. Besides, the effect of coping processes is conveyed by personality factors and, once deducted such effect, the influence of these

factors on resilience is very small and almost non-significant (Villasana, et al., 2016, Villasana, Alonso-Tapia, & Ruiz, 2017).

Coping strategies imply focusing attention on processes. Hence, as it happened with motivation, it can be hypothesized that teaching patterns aimed at enhancing processes favoring cognitive and emotional self-regulation when confronting academic and social adversities may affect resilience positively. Which are, then, the types of teaching patterns able to enhance mastery motivation and cognitive and emotional positive self-regulation processes and, therefore, able to favor resilience?

Classroom motivational climate

Since Ames (Ames, 1992) introduced the concept of *classroom motivational climate*, researchers have gathered evidence on “sets” of teaching patterns that influence students’ motivation to learn (Meece, Anderman, & Anderman, 2006). Ames (1992) thought that CMC could favor mastery or performance goal orientation depending on patterns of teacher’s activity in six teaching areas represented by the acronym TARGET: task, authority, recognition, grouping, evaluation and time. She supposed that specific teaching patterns related to each of these areas could favor the mastery orientation, whereas the lack of these patterns, or patterns opposite to them would obstruct it, favoring a performance/avoidance orientation. Many of the studies carried out on this topic were conceptualized around the “classroom goal structures” (CGS) related concept, defined by the kind of motivational goal mainly stressed by their teachers through their explicit messages, one of the characteristics of classroom motivational climate (Meece et al., 2006; Midgley et al., 2000). The main assessment instruments used in these studies were the scales developed by Midgley et al. (2000). These scales assessed CGS from students’ perceptions of the degree of importance given by their teachers (*mainly through explicit messages*) to: a) effort and understanding (mastery goal structure); b) getting right answers, high scores on tests

and good grades (performance-approach structure); and c) avoiding mistakes in front of others and not to do worse than others (performance-avoidance structure). However, these scales did not take into account other specific teaching patterns –different from teacher’s messages- which contribute to classroom motivational climate, and which should be modified in case that such climate was not adequate for fostering learning motivation and the motivational variables associated to it –interest, effort, self-regulation, perceived ability and, the variable we are interested in, resilience -. Besides, they might not be sensitive enough to improvement in classroom practices after educational interventions.

Due to the described fact, Alonso-Tapia and Pardo (2006) revised and summarized the main teaching patterns that, according to different authors, teachers use along the learning sequence, and analyzed the particular effectiveness of each pattern for enhancing learning motivation. Thereafter, considering that the classroom motivational climate is the result of the particular configuration of such teaching patterns, Alonso-Tapia and Fernández-Heredia (2008) developed the CMC Questionnaire (CMCQ). This instrument allows assessing how students perceive the degree in which a teacher uses the teaching patterns or strategies shown in Figure 7.1. It was considered that the combined use of such patterns, measured by the score of the whole scale, was a way of operationalizing the perceived CMC and of determining whether it could be considered more or less learning oriented.

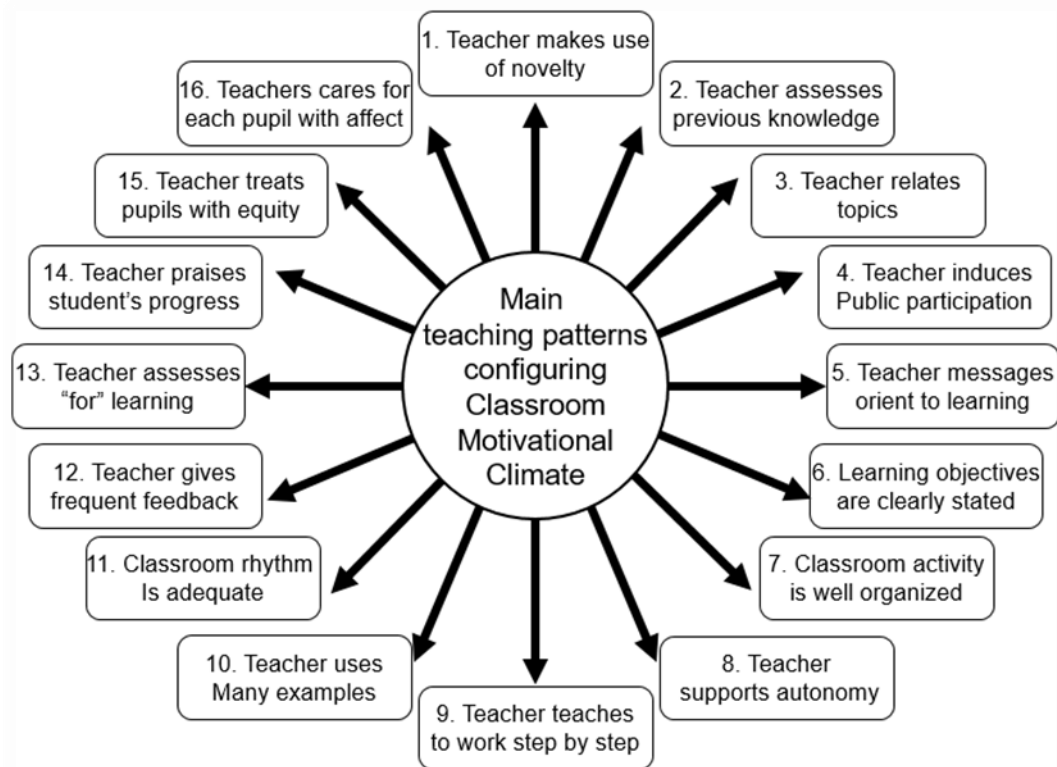


Figure 7.1. Teaching patterns of Classroom Motivational Climate assessed by the CMC.

Validation studies on the CMCQ (Alonso-Tapia & Fernández-Heredia, 2008; Alonso-Tapia & Moral, 2010; Alonso-Tapia, Panadero, & Ruiz, 2014) have demonstrated that the greater the degree in which students perceive that CMC is learning oriented, the greater the degree in which they attribute to his/her teacher their improvement in the several motivational variables (interest, perceived ability, disposition to effort, success expectancies, self-regulation, and satisfaction with teacher work), and the greater is also their achievement. Due to the fact that the variables configuring the CMC focused students' attention on processes that, according to Martin (2002) and Author (2016, a & b) could improve resilience, it was hypothesized that the more learning oriented the CMC, the greater the attribution of the perceived change in resilience to their teachers would be. However, students go to school with their own psychological characteristics, such as initial resilience, efficacy and control

expectancies, etc., that could moderate the perception of CMC and its impact on resilience change.

A preliminary analysis of the suggested hypotheses had been made in a previous work (Alonso-Tapia & Villasana, 2014) through multiple regression analysis. However, we decided to reanalyze the data using the SEM methodology in order to achieve a more precise test of the hypotheses.

Method

Participants

A total of 749 French students from Poitiers (253 males and 496 females, 33.7% and 66.3% respectively) participated in this study. They were students from secondary, high school, and vocational education. The age spanned from 14 to 23 years old (Mean: 17.09; SD: 1.59). The sample was randomly divided into three sub-samples with equal number of subjects. The first sample was used for carrying out the initial analysis and the rest for cross validating the results.

Materials

In order to test the hypotheses, the following instruments were used:

Classroom Motivational Climate Questionnaire, CMCQ (Alonso-Tapia & Fernández-Heredia, 2008). This questionnaire was translated into French and again into Spanish to test translation adequacy. It includes 32 items measuring the degree in which teachers accomplish the sixteen teaching patterns shown in Figure 7.1. Items were answered on a 5-point Likert scale measuring the degree of agreement with each statement (1 = I totally disagree to 5 = I totally agree). With the aim of avoiding the acquiescence phenomenon when answering, the patterns were assessed through two items, one positive and another negative. The psychometric features of the CMCQ in previous studies were satisfactory, with reliability indexes between .92 and .93. An English translation of this questionnaire is included in the Appendix.

Subjective Resilience Questionnaire (SRQ). This questionnaire, developed by Alonso-Tapia, Nieto and Ruiz (2013), has a general scale (SR) and three specific ones that assess the perceived degree of resilience when facing adverse events that students confront in their relationships with teachers (RT), with peers (RP) and with family - parents - (RF). It includes positive and negative items such as: “My teachers sometimes tell me that what I do or say is not correct, without trying to understand what is what I find difficult, but that doesn’t decrease my effort to learn”, “Sometimes my friends criticize me for not doing something well instead of trying to help me, but that doesn’t decrease my effort to improve myself”, “If my parents ignore me when I need them to help me with a problem, I get discouraged and stop striving to solve it”. Items are answered on a 5-point Likert scale measuring the degree of agreement with each statement (1 = I totally disagree to 5 = I totally agree). The reliability index ω (McDonald, 1999) of the general scale is SR: $\omega = .97$, and those of the specific scales are RT: $\omega = .98$; RP: $\omega = .93$; RF: $\omega = .93$.

Attribution of resilience changes to teacher work (APCRT) (Alonso-Tapia et al., 2013). This scale was used for examining whether the degree in which students attribute resilience and motivational changes to teacher work depends mainly on previous perceived resilience, on classroom motivational climate or on the potential moderating role of expectancies. The scale has eight items that are answered on a 5-point Likert scale measuring the degree of agreement with each statement (1 = I totally disagree to 5 = I totally agree). The reliability index is $\omega_{PCRS} = .93$.

Success expectancy scale (SEXP). This scale is an abbreviated form of the Expectancy scale developed by Alonso-Tapia and Pardo (2006). It includes 10 items, half for assessing success expectancies based on self-efficacy (ability) (SEF), and half for assessing success expectancies based control expectancies (effort) (CONT). Items were answered on a 5-point Likert scale measuring the degree of agreement with each

statement (1: I totally disagree to 5: I totally agree). The reliability index ω of the general scale is SEXP: $\omega = .96$, and those of the specific scales are SEF: $\omega = .98$; SEF: $\omega = .90$; CONT: $\omega = .91$.

Procedure

Research Ethics Committee of the Universidad Autónoma of Madrid, in Spain, approved this study.

In order to preserve anonymity and to avoid lost values data were collected by computer. The students filled in the questionnaires in two sessions of 50-minute each, divided according to the groups and courses to which they belonged. One of the researchers stayed in the classroom during their completion and provided precise instructions, so that students could fill in the questionnaires in relation to the teacher and subject they had to take as reference.

Data analyses

In order to determine to what extent previous perceived resilience, classroom motivational climate and expectancies influence the resilience resulting in a change in it, a PALV was conducted using the first subsample in order to assess the relations among the CMCQ, resilience, expectations and change in resilience within a single model (PALV-1, see Figure 7.1) using AMOS-22 statistical software.

The sample was randomly divided into three sub-samples with equal number of individuals. The first sample was used to carry out the starting analysis and the rest for completing a cross-validation of the results.

Estimates were obtained using the maximum likelihood method after examining whether data were adequate for the analysis (Mardia's coefficient: $21.82 < 70$) (Rodríguez & Ruiz, 2008). In order to assess model-fit, absolute fit indexes (χ^2 , χ^2/df , GFI), relative fit index (IFI) and non-centrality fit indexes (CFI, RMSEA) were used, as well as criteria for acceptance or rejection based on the degree of adjustment described

by Hair, Black, Babin and Anderson (2010). Second, in order to cross-validate the results of the previous analysis, a multi-group analysis (PALV-2) was carried out using the two subsamples and using the same criteria that were used in the initial analysis for estimating parameters and for assessing model fit.

Results

Figure 7.2 shows the standardized estimates of the confirmatory model, as well as the squared multiple correlations. All the weights (λ) were significant ($p < .001$). However, in this analysis the main concern was on γ regression coefficients assessing the relation between resilience, classroom motivational climate and success expectancies, with attribution of perceived changes in resilience to teacher's work. The relationship of CMC and APCRT was highly significant, as it might be expected (variance = .44). Initial relation of resilience with APCRT was also significant ($p = .004$) but very low (2.5% of variance explained). As for expectancies, they had a significant effect on CMC ($p < .001$) whereas their weight on APCRT was non-significant. Table 7.1 shows the fit statistics of the proposed model (PALV-1). Concerning the degree of fit, chi-square statistic was significant, probably due to the sample size, but the ratio $\chi^2/df = 1.97 < 5$, and the remaining indexes (GFI = .95; IFI = .94; CFI = .94; RMSEA = .06) were well inside the limits that allowed the model to be accepted.

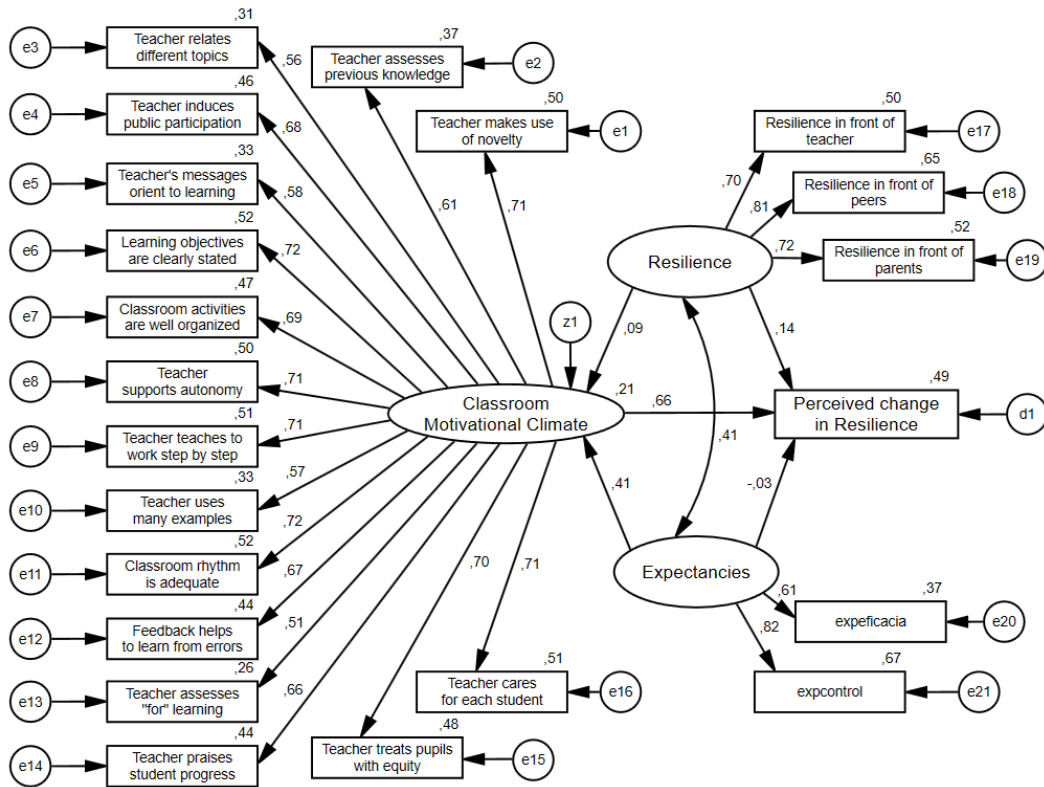


Figure 7.2. Path analysis with latent variables: Factors affecting perceived change in resilience.

Table 7.1

Goodness-of-fit statistics for Path Analyses (PALV) from Classroom Motivational Climate, expectancies and resilience to attribution of perceived change in resilience to teacher's work.

	χ^2	Df	p	χ^2/df	GFI	IFI	CFI	RMSEA
PALV-1 (N=375)	403.55	204	>.001	1.97	.95	.94	.94	.05
PALV-2 CVA (N=375/375)	862.19	479	>.001	1.80	.95	.94	.94	.03

¹ CVA: Cross-validation analysis.

Finally, in order to test the validity of the model, a cross-validation analysis was carried out (PALV-2). The fit statistics presented in Table 7.1 are very similar to those

of PALV-1; chi-square statistic was significant, but the adjusted ratio $\chi^2/df = 1.8 < 5$, and the remaining fit indexes (GFI = .95, IFI = .94, and CFI = .94, RMSEA = .03) were well inside the limits allowing the model to be accepted. However, the model comparison statistics against the unrestricted model (Table 7.2), establishing equality restrictions between groups for measurement weights ($p = .23$), structural weights ($p = .25$), structural covariances ($p = .26$), structural residuals ($p = .33$) and measurement residuals ($p = .36$) show that fit is not significantly reduced in relation to the model without restrictions.

Table 7.2.

Cross-validation of the model using multi-group analysis with two samples. Chi-square differences for model comparison against the unconstrained multi-sample model.

Analysis	Model	DF	Chi-square	P
	Measurement weights	21	25.52	.225
	Structural weights	43	48.82	.250
PALV-2: CVA	Structural covariances	45	50.66	.260
	Structural residuals	48	51.83	.327
	Measurement residuals	49	51.97	.359

Discussion

According to Dweck and Elliot (1983), the basic meaning that every learning situation should have for students is that it makes possible for them to improve their own abilities, making people more competent and allowing them to enjoy this

experience. Therefore, if students' resilience in front of family's, teachers' and peers' actions - that are responsible for adverse and stressful experiences - can vary, it may be necessary to give different kinds of help to facilitate the acquisition of strategies that favor resilience in specific contexts.

Due to the above reasons, the objective of this study was to enlighten how a teacher can contribute to improve his/her students' academic resilience, as it manifests in the student's own perception. It aimed to know to what extent the motivational climate and the students' expectations interact with academic resilience, resulting in a change in it. The baseline would be considering that resilience might act as moderator of perceived CMC and that at the same time it might be affected by CMC. Now the question is, what have the results highlighted?

In the first place, analyses have shown that the initial resilience does not have virtually any relation with the perception of the classroom climate as directed towards learning. The fact that a student has initially a higher academic resilience than the rest will not make him/her to perceive the classroom as more motivating than the rest of his/her peers, regardless of what the teacher does.

Secondly, it helps us to establish conclusions about the relationship of expectations with classroom motivational climate and academic resilience. In 2012, John Hattie, after having analyzed over 900 meta-analyses in which more than 240 million students took part, identified and classified the 150 variables that most influence have on student's learning, coming to the conclusion that the variable which predicts to a greater extent the learning success are the expectations. In line with it, this study shows that the expectations directly influence the CMC, although they do not directly affect the perceived change in academic resilience. It doesn't mean that they have no relevance when it comes to generate a change in resilience. It is rather that this relevance is low and their effect turns out to be indirect: if a student has high expectations, he/she will

perceive the climate created by the teacher as more motivating, and vice versa.

Thirdly, our results have provided evidence that supports our initial expectations: the perceived change in resilience especially depends on the climate created by the teacher. If the students change, to what extent are they going to notice that this is due to the teacher? The results show that 43% of this change depends on what teachers do in the classroom. The CMC is responsible to a large extent for the degree in which students perceive that they have more interest, more self-efficacy expectations, and even that they sink less (more resilience), rather than the expectations students could have, or their initial resilience.

Fourth, the conclusion just commented has practical implications. The climate created by the teacher is very relevant, since that climate is what is causing changes in motivational variables, in resilience and in success expectancies - of control and of efficacy -, and the student is noticing that this works. This fact it means that there are many possibilities of influencing resilience, and of modulating it in order to improve it. In spite of the degree resilience a child might have when entering the classroom, whenever the teacher creates a climate aimed at learning, the child is going to change.

The present study provides an understanding of the motivational factors favoring academic resilience. However, there are limitations that provide direction for further research. Classroom climate includes not only motivational climate, but also emotional climate and discipline management climate. These facets of classroom climate are related and so, the discipline management and emotional climate –especially this last one, given the importance of affect for students’ development- could influence the degree of change in resilience experienced by students. The fact that one of the variables of CMC is “dedication to each student” points to this direction. Therefore, further research on the relationship concerning affective quality of interactions between teachers and students, and resilience is needed to foster positive and optimistic

emotional climates in which student feels secure and responsible has to do with emotional variables that will configure the classroom emotional climate, in addition to the aforementioned motivational variables.

References

- Alonso-Tapia, J., & Fernández-Heredia, B. (2008). Development and initial validation of the Classroom Motivational Climate Questionnaire (CMCQ). *Psicothema*, 20(4), 883-889.
- Alonso-Tapia, J., & Moral, M. A. (2010). Percepción del Clima Motivacional de Clase en Estudiantes Adultos no Universitarios [Perception of classroom motivational climate in adult non-university students]. *Psicología Educativa*, 16(2), 115-133.
- Alonso-Tapia, J., Nieto, C., & Ruiz, M. A. (2013). Measuring subjective Resilience despite adversity due to family, peers and teachers. *The Spanish Journal of Psychology*, 16, E19. <http://dx.doi.org/10.1017/sjp.2013.33>
- Alonso-Tapia, J., Panadero, E., & Ruiz, M. A. D. (2014). Development and validity of the Emotion and Motivation Self-regulation Questionnaire (EMSR-Q). *The Spanish Journal of Psychology*, 17, E55. <http://dx.doi.org/10.1017/sjp.2014.41>
- Alonso-Tapia, J., & Pardo, A. (2006). Assessment of learning environment motivational quality from the point of view of secondary and high school learners. *Learning and Instruction*, 16(4), 295-309. <http://dx.doi.org/10.1016/j.learninstruc.2006.07.002>
- Alonso-Tapia, J., & Villasana, M. (2014). Assessment of subjective resilience: cross-cultural validity and educational implications. Evaluación de la resiliencia subjetiva: validez transcultural e implicaciones educativas del 'Cuestionario de Resiliencia Subjetiva' (SRQ), *Infancia y Aprendizaje/Journal for the Study of Education and Development*. <http://dx.doi.org/10.1080/02103702.2014.965462>

- Ames, C. (1992). Achievement goals and the classroom motivational climate. In D. H. Schunk, & J. L. Meece (Eds.), *Student perceptions in the classroom* (pp. 327-348). Nueva York: Lawrence Erlbaum.
- Atkinson, J. W. (1957). Motivational determinants of risk taking. *Psychological Review*, *64*(6), 359-372.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.
- Dweck, C., & Elliot, D. S. (1983). Achievement motivation. In P. H. Mussen (gen. Ed.), & E. M. Hetherington (vol. Ed.), *Handbook of child psychology. Vol IV: Social and personality development* (pp. 643-691). New York, NY: Wiley.
- Good, C., & Dweck, C. S. (2006). A motivational approach to reasoning, resilience and responsibility. In R. Sternberg, & R. Subotnik (Eds.), *Optimizing Student Success in School With the Other Three Rs: Reasoning, Resilience, and Responsibility* (pp. 39-56). Charlotte, NC: Information Age Publishing.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson-Prentice Hall.
- Hattie, J. A. C. (2012). *Visible learning for teachers. Maximizing impact on learning*. Routledge.
- Kato, T. (2013). Frequently used coping scales: A meta-analysis. *Stress and Health*, *31*(4), 315-323. <http://dx.doi.org/10.1002/smi.2557>
- Kuhl, J. (1994). A theory of action and state orientations. In J. Kuhl, & J. Beckmann (Eds.), *Volition and personality: Action versus state orientation*. (pp. 9-46). Seattle: Hogrefe and Huber.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer Publishing.

- Leipold, B., & Greve, W. (2009). Resilience: A conceptual bridge between coping and development. *European Psychologist, 14*(1), 40-50. <http://dx.doi.org/10.1027/1016-9040.14.1.40>
- Linnenbrink-García, A., Middleton, M. J., Ciani, K. D., Easter, M. A., O’Keefe, P. A., & Zusho, A. (2012). The strength of the relation between performance-approach and performance-avoidance goal orientations: Theoretical, methodological and instructional implications. *Educational Psychologist, 47*(4), 281-301. <http://dx.doi.org/10.1080/00461520.2012.722515>
- Luthar, S. S. (2006). Resilience in development: A synthesis of research across five decades. In D. Cicchetti, & D. J. Cohen (Eds.), *Development Psychopathology: Risk, disorder and adaptation* (2nd ed., pp. 739-795). New York: Wiley.
- Martin, A. (2002). Motivation and academic resilience: Developing a model for student enhancement. *Australian journal of education, 46*(1), 34-49. <https://doi.org/10.1177/000494410204600104>
- Martin, A. J., & Marsh, H. W. (2009). Academic resilience and academic buoyancy: Multidimensional and hierarchical conceptual framing of causes, correlates and cognate constructs. *Oxford Review of Education, 35*(3), 353-370.
- Masten, A. S. (2007). Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology, 19*(3), 921-930. <http://dx.doi.org/10.1017/S0954579407000442>
- McDonald, R. P. (1999). *Test theory. A unified treatment*. Mahwah, NJ: Lawrence Erlbaum.
- Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006). Classroom goal structure, student motivation, and academic achievement. *Annual Review of Psychology, 57*, 487-503. <http://dx.doi.org/10.1146/annurev.psych.56.091103.070258>

- Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., & Urdan, T. (2000). Manual for the patterns of adaptive learning scales. *Ann Arbor, 1001*, 48109-1259.
- Olsson, C. A., Bond, L., Burns, J. M., Vella-Brodrick, D. A., & Sawyer, S. M. (2003). Adolescent resilience: A concept analysis. *Journal of Adolescence, 26*(1), 1-11.
[http://dx.doi.org/10.1016/S0140-1971\(02\)00118-5](http://dx.doi.org/10.1016/S0140-1971(02)00118-5)
- Prince-Embury, S. (2007). *Resiliency Scales Manual: For Children & Adolescents: a Profile of Personal Strengths*. San Antonio, TX: Harcourt Assessment, Incorporated.
- Prince-Embury, S., & Saklofske D. H. (Eds.) (2013). *Resilience in children, adolescent and adults: Translating research into practice*. New York: Springer.
- Prince-Embury, S., & Saklofske, D. H. (2014). *Resilience interventions for youth in diverse populations*. New York, Springer.
- Rodríguez, M. N., & Ruiz, M. A. (2008). Atenuación de la asimetría y de la curtosis de las puntuaciones observadas mediante transformaciones de variables: Incidencia sobre la estructura factorial [Attenuation of skewness and kurtosis of observed scores by transforming variables: Effect on factor structure]. *Psicológica: Revista de metodología y psicología experimental, 29*(2), 205-227.
- Skinner, E. A., Edge, K., Altman, J., & Sherwood, H. (2003). Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychological bulletin, 129*(2), 216-269. <http://dx.doi.org/10.1037/0033-2909.129.2.216>
- Skinner, E. A., & Zimmer-Gembeck, M. J. (2007). The development of coping. *Annual Review of Psychology, 58*, 119-144.
<http://dx.doi.org/10.1146/annurev.psych.58.110405.085705>

- Villasana, M., Alonso-Tapia, J., / Ruiz, M. (2016). A model for assessing coping and its relation to resilience in adolescence from the perspective of “person-situation interaction”. *Personality and Individual Differences*, 98, 250-256.
<http://dx.doi.org/10.1016/j.paid.2016.04.053>
- Villasana, M., Alonso-Tapia, J., & Ruiz, M. A. (2017). Coping processes and personality factors as predictors of *resilience* in adolescent students: Validation of a structural model. *Revista de Psicodidáctica*, 22(2).
<http://dx.doi.org/10.1387/RevPsicodidact.16889>
- Weiner, B. (1986). *An attributional theory of motivation and emotion*. New York, NY: Springer.
- Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist*, 47(4), 302-314. <http://dx.doi.org/10.1080/00461520.2012.722805>

CHAPTER VIII

Conclusiones / Conclusions

Conclusiones

Esta tesis partía de un hecho: todo el mundo, en algún momento de sus vidas, tiene que enfrentarse a situaciones adversas. Sin embargo, es cierto que no todas las personas les hacen frente de la misma manera. Hay personas que se hunden frente a las dificultades, que se deprimen, sienten ansiedad o se estancan, mientras que otras no solo son capaces de afrontarlas, sino incluso de salir fortalecidas de tales situaciones.

Si pudiéramos identificar y medir qué es lo que mantiene a un/a adolescente firme a pesar de los desafíos a los que se enfrenta, podríamos ayudar a los profesionales a desarrollar estrategias de intervención eficaces destinadas a ayudar a los adolescentes a responder de una manera resiliente o a prevenir que se hundan cuando estén expuestos a adversidades. Con esta meta en nuestro horizonte, comenzamos a hacernos cuestiones y a realizar hipótesis, cuya comparación dio como resultado la discusión presentada en esta sección.

Con el objetivo de facilitar la lectura de las conclusiones, empezaremos por retomar brevemente los principales interrogantes que son la causa de esta tesis doctoral. Estas preguntas tienen que ver con los factores mostrados en la Figura 8.1: ¿qué hace un/a adolescente que le permita decir que no se desanima cuando se enfrenta a una situación adversa, y qué le hace diferente de un/a adolescente que afirma desanimarse? ¿De qué depende la resiliencia, y que por consiguiente nos ayude a intervenir? ¿En qué medida depende de factores internos, tales como estrategias de afrontamiento o factores de personalidad? ¿En qué medida depende de factores externos, tales como la sociedad, la cultura, la comunidad o el contexto específico en el que estamos? Y si nos centramos en el contexto escolar, ¿cómo puede contribuir un/a profesor/a a mejorar la percepción de la resiliencia de sus alumnos? ¿Hasta qué punto los factores instruccionales facilitan el cambio en la resiliencia? ¿Cuáles serían, en particular, tales factores instruccionales?

Basándonos en los resultados de nuestro trabajo, veamos en qué medida hemos sido

capaces de responder a estas preguntas abordando sus diferentes ámbitos de interés.

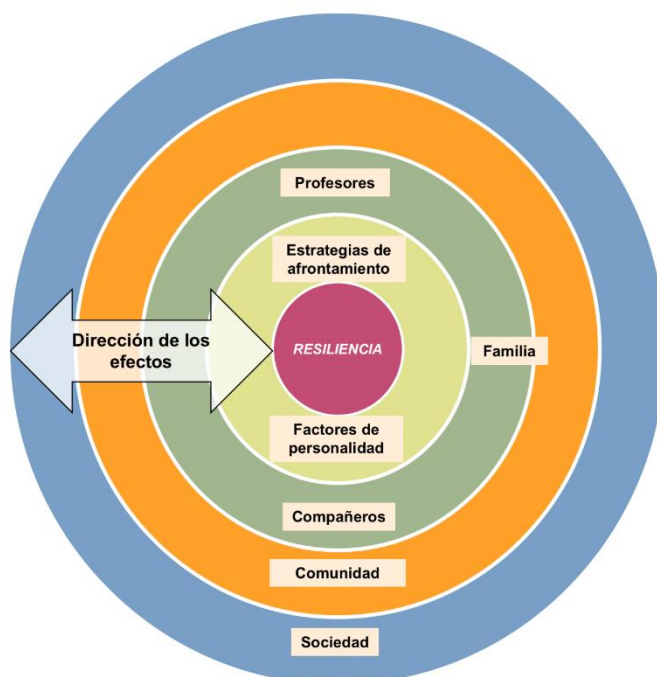


Figura 8.1. Factores internos y externos que pueden influir sobre y ser influidos por la resiliencia.

Análisis transcultural de la resiliencia

El primer artículo se refiere a la naturaleza y a la evaluación de la resiliencia. La medida española de resiliencia subjetiva desarrollada por Alonso-Tapia, Nieto y Ruiz (2013) y el modelo teórico que subyace a la misma, modelos adecuados con adolescentes españoles. Por tanto, el objetivo del primer estudio fue hallar una primera respuesta a la siguiente pregunta: ¿existen diferencias culturales que afecten a la percepción que los adolescentes tienen acerca de si son o no resilientes? Tal y como se esperaba, la forma en que se ha operacionalizado y medido la resiliencia subjetiva es válida no solo en España sino también en Francia, como se explica a continuación.

Los resultados mostraron, en primer lugar, que la resiliencia tiende a generalizarse ante diversas situaciones, aunque puede variar dependiendo del contexto. Estos resultados están en consonancia con estudios similares que demuestran que la resiliencia

interactúa con las situaciones (Alonso-Tapia, Rodríguez-Rey, Garrido-Hernansaiz, Ruiz, & Nieto, 2016). La existencia de factores intermedios más específicos relacionados con diferentes tipos de situaciones adversas - los relacionados con el comportamiento del/de la profesor/a, de los compañeros y de la familia - sugiere que la resiliencia no se manifiesta de la misma manera en cada contexto. Los adolescentes pueden actuar de manera resiliente al enfrentarse a un tipo concreto de adversidad, pero no cuando se enfrentan a una distinta.

En segundo lugar, los resultados han mostrado algunas diferencias entre los alumnos españoles y franceses en lo referente al grado en que reconocen que la situación descrita en los ítems específicos les hace reaccionar de una manera resiliente o no. La coincidencia en las respuestas resultó ser mayor entre los alumnos españoles que entre los franceses. Estas diferencias son especialmente significativas cuando los ítems se refieren a una reacción no resiliente. Estos resultados implican que la naturaleza de la situación adversa o el hecho de ser consciente de la manera de reaccionar, o ambas cosas, están más claros para los alumnos españoles que para los franceses. Esta diferencia cultural se debe probablemente a pautas educativas y a experiencias de aprendizaje diferentes que deberían ser identificadas.

Estrategias de afrontamiento y resiliencia

Según los resultados del primer estudio, la resiliencia tiende a generalizarse ante diferentes situaciones, si bien varía en cierto modo, lo que supone que la manera de enfrentarse a las adversidades en cada contexto es diferente. Estos hechos nos llevaron a las preguntas abordadas en los tres estudios que siguieron al primero. ¿Qué es lo que hacen algunos adolescentes que les permite afirmar que no se desaniman al enfrentarse a una situación adversa, y qué es lo que les hace distintos de los adolescentes que identifican que se desaniman? ¿En qué grado la resiliencia depende de factores internos, tales como estrategias de afrontamiento? Además, ¿hasta qué punto el uso de estrategias

de afrontamiento es moderado por los tipos de situación adversa, como sugiere el primer estudio?

La primera contribución importante del segundo estudio ha sido el proporcionar evidencias sobre la importancia de las situaciones en la elección de diferentes estrategias de afrontamiento. Los adolescentes no utilizan las mismas estrategias para hacer frente a todos los tipos de situaciones adversas, a pesar de que en cierta medida las estrategias de afrontamiento se generalicen. Por ejemplo, el uso de la rumiación está positivamente relacionado con los problemas vinculados a los compañeros, los profesores y el estudio, y de manera negativa con los problemas vinculados a los padres. Este hecho puede explicar hasta cierto punto por qué la resiliencia no aparece en la misma medida ante diferentes situaciones, a pesar de que también se generalice en cierto modo. El modelo creado al desarrollar el cuestionario que se utilizó para este estudio -PSCQA- posee la ventaja de permitirnos tener en cuenta tanto el peso de las características personales tales como las estrategias y estilos de afrontamiento, como el peso de la situación cuando los adolescentes se enfrentan a la adversidad.

Llegados a este punto, antes de continuar con la línea principal de reflexión sobre los factores de personalidad que afectan a la resiliencia, es importante considerar las contribuciones de este trabajo a la comprensión del afrontamiento y a la mejora de su medida. Como se describió en el segundo artículo, un hecho reconocido por la comunidad científica es que ninguna estrategia en sí misma es mejor o peor que cualquier otra, y que la adaptabilidad depende del contexto o situación específica (Folkman & Moskowitz, 2004; Skinner, Edge, Altman, & Sherwood, 2003). Esta es la razón por la cual resulta necesario incluir la situación a la que la gente ha de enfrentarse al evaluar las estrategias, estilos y procesos de afrontamiento, tanto al evaluar en contextos clínicos como al evaluar grupos con fines de investigación. El PSCQA desarrollado para este estudio muestra una manera de abordar este problema. Sin

embargo, no es un cuestionario completo - probablemente ningún cuestionario lo sea - porque el número de situaciones adversas es inmenso y tal es el número de posibles estrategias de afrontamiento (Skinner & Zimmer-Gembeck, 2007). Aunque las estrategias incluidas en el PSCQA son aquellas con mayor poder predictivo (Kato, 2013), y por ende parecen ser las más importantes, no significa que las únicas estrategias utilizadas por los adolescentes sean las incluidas en este cuestionario. Por tanto, es necesario continuar estudiando el afrontamiento desde la perspectiva de la interacción persona-situación y desarrollando nuevos instrumentos con este objetivo.

Un resultado que merece también ser considerado es la estructura determinada de las estrategias y estilos de afrontamiento identificada en este estudio. De acuerdo con esta estructura, las estrategias de afrontamiento evaluadas por el PSCQA pueden agruparse en dos estilos de afrontamiento: *afrontamiento centrado en el problema* y *afrontamiento centrado en la emoción*. Sin embargo, la correlación positiva y significativa hallada entre ambos estilos de afrontamiento sugiere que los adolescentes podrían no ser muy consistentes al adoptar estrategias que corresponden a un estilo u otro. Dado este resultado, el estilo menos adaptativo puede interferir con el estilo más adaptativo, un hecho que puede afectar a la resiliencia. Por lo tanto, no podemos concluir que, en la adolescencia, existan dos tipos opuestos de afrontamiento claramente establecidos.

Este hecho se desvía de los resultados obtenidos en anteriores estudios sobre estrategias de afrontamiento en adultos (Alonso-Tapia, Rodríguez-Rey, Garrido-Hernansaiz, Ruiz, & Nieto, 2016; Lazarus & Folkman, 1984; Skinner & Zimmer-Gembeck, 2007). En el estudio de Alonso-Tapia et al. (2016), las mismas estrategias de afrontamiento son organizadas en torno a un modelo de tres factores: afrontamiento centrado en la emoción, afrontamiento centrado en la solución del problema y el afrontamiento centrado en la relación social. Este último estudio demuestra la existencia de una correlación negativa entre los tres estilos en adultos. La diferencia entre la

estructura del afrontamiento en adolescentes y en adultos, así como el hecho de que en el primer grupo los estilos de afrontamiento correlacionen positivamente y en el segundo correlacionen negativamente puede reflejar una diferencia evolutiva.

Un hecho relacionado con el aspecto anterior, es que en la adolescencia cada estilo de afrontamiento no está tan claramente definido como en la edad adulta. Por ejemplo, *rumiación* y *no pensar* saturan en ambos estilos de afrontamiento. Tradicionalmente eran consideradas estrategias que obstaculizaban la solución del problema. Sin embargo, los resultados sugieren que, en ciertas circunstancias, el hecho de pensar en el problema de una manera repetitiva es positivo, quizás porque pueda contribuir a hallar una solución, y, de manera similar, que en algunos contextos *no pensar* puede también ser adaptativo - tal vez, por ejemplo, cuando el problema no tiene solución. En cualquier caso, el hecho de que el uso de estrategias de afrontamiento no esté claramente establecido en la adolescencia sugiere que son aun maleables, lo cual ofrece la posibilidad de influir sobre ellos mediante intervenciones educativas.

Factores de personalidad y resiliencia

Las diferencias en resiliencia pueden depender de las estrategias y estilos de afrontamiento, tal como se ha mostrado previamente. Sin embargo, la resiliencia también puede depender de diferencias en algunos factores de personalidad, aquellos que según la bibliografía configuran la “resiliency” (Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003; Prince-Embury, 2007; Prince-Embury & Saklofske, 2013, 2014). Por tanto, diseñamos un tercer estudio con el fin de investigar el papel de dichos factores sobre la resiliencia. Sus resultados han generado varias contribuciones para comprender, en primer lugar, la manera en que los factores considerados están relacionados entre ellos y, en segundo lugar, el papel que juegan en favorecer o inhibir la resiliencia. Estas contribuciones fueron explicadas en el artículo, pero hay algunos puntos que merecen ser considerados con más detalle.

En primer lugar, de acuerdo con los resultados del tercer estudio, el sentido de dominio (SM) y la reactividad emocional (ER) predicen el nivel de resiliencia tal y como se esperaba: cuanto más alto sea el SM, mayor será la resiliencia, y cuanto menor sea la ER, mayor será la resiliencia. Sin embargo, el sentido de relación (SR) no predice la resiliencia de una manera significativa, un resultado que contradice las expectativas derivadas de la teoría de Prince-Embury. En estudios llevados a cabo por ella, el SR predecía la resiliencia de una forma positiva. Esta falta de coincidencia es un resultado importante que merece una atención especial. Si el SR correlaciona positivamente y en muy alto grado con el SM, y el SM correlaciona positivamente con la resiliencia, ¿por qué el SR no correlaciona también positivamente? Una posible explicación puede ser que el SR pueda deberse a dos tipos diferentes de experiencias. La conciencia de los adolescentes del SR puede ser debido a un alto SM. Esta característica, cuando tienen que hacer frente a una situación adversa, puede llevarles primero a encontrar una solución al problema por ellos mismos, y solo si no lo consiguen, a pedir ayuda. Si este fuera siempre el caso, el SR correlacionaría positivamente con la resiliencia. Sin embargo, la conciencia de los adolescentes del SR puede también deberse a que al enfrentarse a una adversidad, hayan aprendido desde un primer momento a pedir ayuda. Esta estrategia implica que el SR esté probablemente relacionado de manera positiva con el bienestar, pero no con la resiliencia, ya que su uso impediría el desarrollo de estrategias adecuadas para enfrentarse a situaciones adversas en caso de falta de ayuda social. Ya que ambos casos pueden estar presentes en una muestra, la relación final del SR con la resiliencia parece ser nulo, al menos en la adolescencia. Un estudio paralelo realizado con adultos (Alonso-Tapia, Garrido-Hernansaiz, Rodríguez-Rey, Ruiz, & Nieto, 2017) ha demostrado que la relación entre SR y la resiliencia es incluso negativa, un resultado que contradice el punto de vista de Prince-Embury.

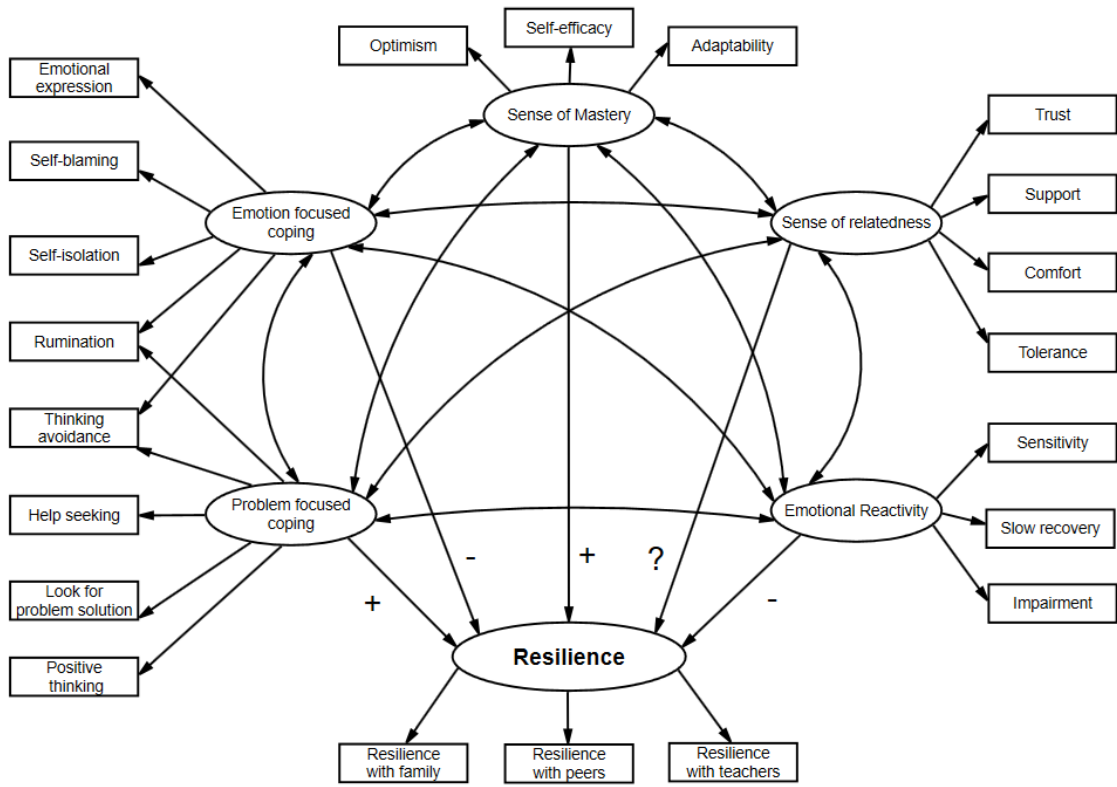
En segundo lugar, el SM y la ER están negativamente correlacionados en un muy alto grado. A mayor SM, menor ER, y viceversa. Una explicación de esta correlación negativa podría ser la siguiente. Puede ser que el SM implique la capacidad de regular emociones de una forma positiva. Si esta hipótesis fuera cierta, a mayor SM, habría una menor ER. Una hipótesis alternativa sería que a medida que la ER aumenta, obstaculiza el desarrollo de estrategias para regular emociones de una forma positiva. Esta hipótesis es compatible con la anterior. Además, como el SM correlaciona positivamente con la resiliencia y la ER correlaciona negativamente, ambas hipótesis apuntan hacia un objetivo claro para intervenciones dirigidas a mejorar la resiliencia: enseñar a adolescentes estrategias para regular emociones de una manera positiva.

En tercer lugar, otro resultado relacionado con SR a comentar es el siguiente. Con el fin de comprender la naturaleza del SR, en el tercer estudio se analizó su efecto potencial sobre la “*aceptación e integración social*” así como si esta característica social podría actuar como mediadora entre el SR y la resiliencia. Se descubrió que existe una alta y positiva correlación entre el SR y la *aceptación e integración social*. Este hecho implica, en consonancia con los resultados hallados por varios investigadores (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000; Kern, Waters, Adler, & White, 2015; Wentzel & Caldwell, 1997; Dillon & Wink, 2003), que las características que configuran el SR - confianza, apoyo, sociabilidad y tolerancia - contribuyen al bienestar. Sin embargo, la falta de correlación entre “la *aceptación e integración social*” y la resiliencia implica que el SR no necesariamente contribuye a la resiliencia. Si una persona está socialmente adaptada, aceptada e integrada puede ser o no ser resiliente. De la misma manera, si falta ayuda social, la gente puede ser capaz o no de recuperarse de situaciones significativamente adversas. Depende principalmente de SM, en lo que a características de personalidad se refiere.

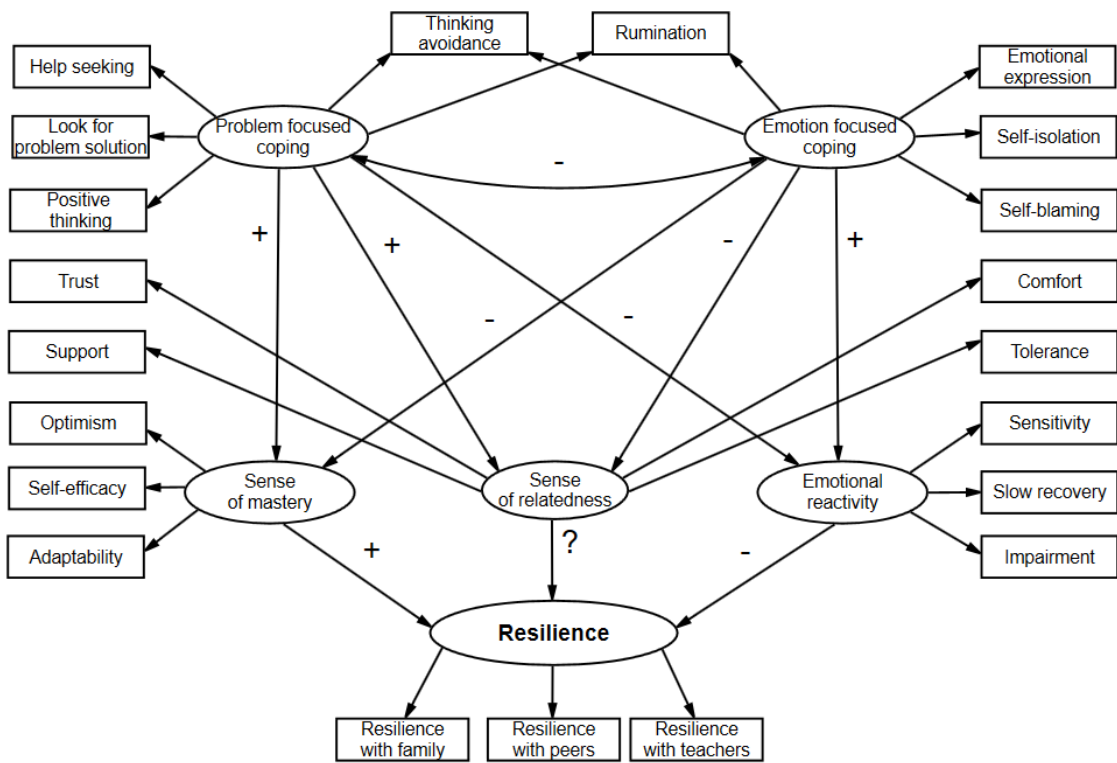
En resumen, la principal implicación del estudio de las relaciones entre resiliency y resiliencia es que, dado que las personas tienen que lidiar solas a menudo con situaciones adversas, con el fin de fomentar la resiliencia, es mejor fortalecer su SM y, probablemente, el desarrollo de estrategias de autorregulación positiva de las emociones. Por consiguiente, además de tener relaciones de apoyo, los mecanismos internos que ayudan a la gente a ser capaces de relacionarse con otros de una manera significativa y duradera son la clave para ser resilientes frente a las adversidades.

Afrontamiento, resiliency y resiliencia

Los estudios anteriores han establecido la importancia de las estrategias de afrontamiento como procesos que subyacen a la resiliencia, y el papel moderador de los factores de personalidad. Sin embargo, estos dos tipos de características podrían estar relacionados, una posibilidad que planteó la siguiente pregunta: ¿cuál es el peso relativo de cada una de estas características personales para predecir la resiliencia? El objetivo del cuarto estudio era hallar la respuesta a esta pregunta, un objetivo para el cual se desarrollaron dos modelos de predicción de las hipotéticas relaciones entre afrontamiento, resiliency y resiliencia, mostrados de nuevo en las figuras 8.2 y 8.3.



Modelo 1



Modelo 2

Figuras 8.2 y 8.3. Modelos analizados sobre el peso relativo de los factores personales que predicen la resiliencia.

Como conclusión general, los dos modelos hacen evidente que la *resiliencia* depende principalmente de las estrategias de afrontamiento, de manera positiva en el caso de las estrategias enfocadas a la solución del problema y de manera negativa en el caso de estrategias centradas en las emociones. Los resultados correspondientes al segundo modelo, en cambio, son compatibles con la suposición según la cual las variables de personalidad pueden jugar un papel mediador, tal y como se explica a continuación.

En primer lugar, los resultados están en consonancia con la siguiente hipótesis. Por un lado, son compatibles con la idea de que las personas que normalmente se centran en solucionar los problemas al enfrentarse a situaciones adversas tienden a desarrollar un alto sentido de dominio, y que este sentido de dominio contribuye a desarrollar resiliencia - probablemente porque las mismas estrategias de afrontamiento son utilizadas una y otra vez y acaban consolidándose -. Por otro lado, también son compatibles con la idea de que, si una persona se centra en las emociones usando el tipo de estrategias incluidas en el PSCQA, tenderán a desarrollar o al menos consolidar una reactividad emocional alta, y esta reactividad emocional contribuirá a la resiliencia de manera negativa. Un estudio recientemente llevado a cabo con adultos (Rodríguez-Rey, 2016) apunta también en la misma dirección.

En segundo lugar, los resultados son también compatibles con la hipótesis - no demostrada - según la cual, en la medida en que la atención de los adolescentes se centre no solo en solucionar problemas externos, sino también en la autorregulación positiva de emociones (usando estrategias distintas de aquellas incluidas en el PSCQA), la reactividad emocional tenderá a disminuir, lo que produciría un aumento de la resiliencia. Los resultados del estudio anteriormente citado de Rodríguez-Rey señalan en la misma dirección.

En tercer lugar, en el artículo tres, al considerar el efecto de las características personales sobre la resiliencia sin tener en cuenta el papel de las estrategias de

afrontamiento, la relación entre el SR y el SM era positiva, y aquella entre el SR y la resiliencia era cero. En el cuarto artículo, la dependencia del SR del afrontamiento enfocado a la solución del problema era positiva, mientras que la relación entre el SR y la resiliencia era negativa. En ambos estudios, la relación del SR con la resiliencia va en contra de las suposiciones de Prince-Embury, pero este resultado es más acusado en el caso en que el afrontamiento enfocado a la solución del problema es tenido en cuenta. Estos resultados, en consonancia con los hallados en el estudio de Rodríguez-Rey (2016), podrían explicarse mediante la hipótesis comentada en la sección dedicada al tercer estudio. El SR puede deberse a dos tipos distintos de experiencias. La conciencia de los adolescentes de SR puede deberse a un alto SM, una variable influenciada por el PFC. Estas últimas características (SM y PFC) les pueden llevar primero a encontrar la solución al problema por ellos mismos, y tan solo en caso de no conseguirlo, entonces a pedir ayuda. Si éste fuera siempre el caso, el SR correlacionaría positivamente con la resiliencia. Sin embargo, la conciencia de los adolescentes del SR puede también deberse a que cuando tienen que hacer frente a una adversidad, hayan aprendido a pedir ayuda desde un primer momento. Esta estrategia implica que el SR esté probablemente relacionado de manera positiva con el bienestar, pero no con la resiliencia, ya que su uso estaría impidiendo el desarrollo de estrategias adecuadas para enfrentarse a situaciones adversas en caso de que no hubiera ayuda social. Como ambos casos pueden estar presentes en una muestra, la relación final del SR con la resiliencia parece ser nulo, al menos en la adolescencia. Sin embargo, los resultados del cuarto estudio implican que si se descarta el efecto del afrontamiento centrado en la solución del problema sobre la resiliencia a través del SR, el SR por sí mismo tiene un efecto negativo. Este efecto podría explicarse mediante la hipótesis anteriormente expuesta: los adolescentes que no aprenden a hacer frente a las dificultades por sí mismos, y que dependen principalmente de la ayuda de otros para enfrentarse a adversidades, no

desarrollan las estrategias que les permiten recuperarse y ser resilientes. Tener una red saludable de apoyo social contribuye al bienestar, pero si, ante un problema, lo primero que los adolescentes hacen es recurrir a otros, no aprenden a solventarlo por sí mismos. Por tanto, la intervención, tal como lo analizaremos más adelante, debería estar dirigida a ayudar a los adolescentes a hacer frente a sus problemas de una manera apropiada (estrategias centradas a la solución del problema), la cual incrementaría su sentido de dominio, y favorecería su regulación emocional.

Factores de clase que influyen en la resiliencia

Un objetivo importante de nuestra tesis era descubrir si los factores de clase influían en la resiliencia, ya que si la respuesta resultaba ser positiva, indicaría una clara dirección para las intervenciones destinadas a favorecer la resiliencia. Se llevaron a cabo dos trabajos con este objetivo. El estudio descrito en el capítulo 5, el primero, fue realizado con el fin de analizar la validez transcultural del Cuestionario del Clima Motivacional de Clase (CMCQ) (Alonso-Tapia & Fernández-Heredia, 2008), cuya estructura se muestra en la Figura 8.4, dado que este era el cuestionario que debía utilizarse para conseguir el objetivo antes mencionado. En cuanto al segundo, descrito en el capítulo 6, estudiaba la relación entre el CMC, la resiliencia y la satisfacción con el trabajo del/de la profesor/a. A continuación, se incluyen solo las principales contribuciones del estudio 5 antes de centrarse en comentar las implicaciones del último.



Figura 8.4: Variables que configuran el Clima Motivacional de Clase (Alonso-Tapia & Fernández-Heredia, 2008).

Estudio transcultural CMCQ. Las principales contribuciones de este estudio son las siguientes.

En primer lugar, los resultados habían mostrado que los principales componentes del CMCQ son los mismos para ambos países, Francia y España. Este resultado supone que la motivación por aprender de la mayoría de los estudiantes se vería favorecida por el uso generalizado de tales estrategias dentro de la actividad docente.

En segundo lugar, en consonancia con estudios previos (Alonso-Tapia & Fernández-Heredia, 2008; Alonso-Tapia & Moral, 2010; Leal & Alonso-Tapia, 2017), los estudiantes vinculan los cambios positivos en las variables motivacionales - interés, habilidad percibida (autoeficacia), expectativas de éxito y esfuerzo - a la presencia de pautas de enseñanza incluidas en el CMCQ. Al mismo tiempo, los análisis de regresión han demostrado que la "Satisfacción con el trabajo del/de la profesor/a" depende principalmente del CMC, así como de los cambios percibidos en las variables

motivacionales que acabamos de mencionar que, a su vez, se atribuyen al CMC. Estos resultados resaltan de nuevo lo relevante de generar un CMC orientado hacia el aprendizaje.

En tercer lugar, también se encontraron diferencias significativas entre los estudiantes españoles y franceses en la manera en que perciben el valor motivacional de las pautas de enseñanza. "Promover la autonomía" es considerada como un buen indicador de un CMC orientado al aprendizaje de manera más positiva en Francia que en España. Por el contrario, la mayoría de las pautas de enseñanza incluidas en el CMCQ tienen un mayor valor motivacional para los estudiantes españoles que para los franceses.

En cuarto lugar, los resultados mostraron diferencias no sólo entre los estudiantes, sino también entre "grupos" de estudiantes pertenecientes a diferentes profesores. Este hecho plantea una pregunta clave cuya respuesta tiene importantes implicaciones teóricas y prácticas: ¿cuáles son las características del/de la profesor/a responsables de tales diferencias entre los grupos? Esto constituye una pregunta importante ya que los programas de formación dirigidos a capacitar a los profesores para motivar a sus estudiantes deben realizarse centrándose en tales características. En respuesta a estas preguntas, un estudio reciente aún sin publicar (Alonso-Tapia, Ruiz, & Huertas, 2017) mostrará evidencias empíricas de los factores de los profesores que influyen en el CMC.

CMC y resiliencia. La figura 8.5 muestra una síntesis de la hipótesis analizada en el estudio 6, cuyas aportaciones principales son las siguientes.

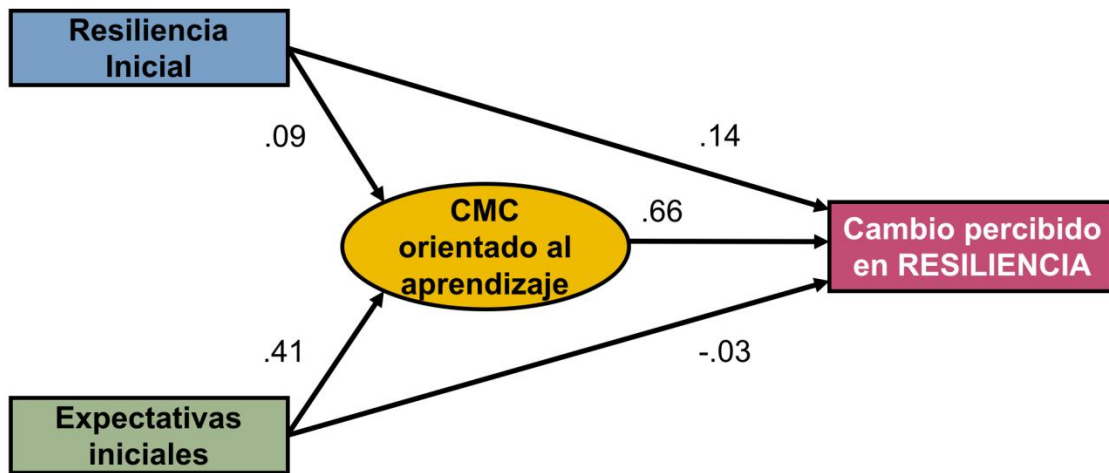


Figura 8.5: modelo base para evaluar el cambio percibido en resiliencia.

En primer lugar, el cambio percibido en la resiliencia depende en gran medida del clima motivacional de clase generado por el/la profesor/a: los resultados muestran que el 43,5% de este cambio percibido se atribuye al grado en que las pautas de enseñanza de los profesores están orientadas al aprendizaje.

En segundo lugar, el efecto de las expectativas sobre el cambio percibido en la resiliencia académica es importante, pero no directo. Si los estudiantes tienen altas expectativas y perciben que el clima motivacional creado por el/la profesor/a está orientado al aprendizaje, entonces atribuyen su percepción de cambio en la resiliencia al/a la profesor/a en un 27%. Este hecho subraya la importancia de favorecer el desarrollo de la autoeficacia y controlar las expectativas con el fin de mejorar la resiliencia. Esta implicación es coherente con las implicaciones de los resultados en los estudios 3 y 4, en los que el sentido de dominio tenía, como uno de sus principales componentes, la autoeficacia y tenía un efecto positivo sobre la resiliencia, mediando el efecto del afrontamiento centrado en la solución del problema.

En tercer lugar, este trabajo ha demostrado también que el grado de resiliencia inicial casi no tiene ningún efecto, ni directo ni indirecto, sobre la atribución del cambio percibido en la resiliencia a los profesores. Independientemente del nivel inicial de

resiliencia subjetiva, en la medida en que los estudiantes perciban que su resiliencia ha mejorado, atribuyen este cambio a las conductas de sus profesores que, en gran medida, configuran el clima motivacional de clase orientado hacia el aprendizaje.

Implicaciones prácticas

Nuestros resultados tienen implicaciones prácticas para la evaluación del afrontamiento y de la resiliencia, pero principalmente, tienen implicaciones educativas claras para mejorar la resiliencia, ya que nos dan algunas ideas sobre *qué enseñar, cómo enseñarlo* trabajando desde la escuela, y *cómo modificar lo que enseñamos* dependiendo de los tipos de situaciones adversas a los que nuestros alumnos han de hacer frente.

La *primera implicación práctica* de nuestros resultados se basa en que los adolescentes pueden ser resilientes al enfrentarse a un tipo específico de adversidad, pero no frente a otro. Por lo tanto, debe enfatizarse la importancia de evaluar la resiliencia en el contexto de tipos específicos de situaciones adversas con el fin de proporcionar la ayuda adecuada. Entre los estudiantes, las estrategias de afrontamiento que favorecen la resiliencia varían cuando se enfrentan a las acciones de la familia, de los profesores y de los compañeros que generan experiencias adversas y estresantes. Además, las diferencias de afrontamiento se asocian, en parte, a la cultura - como ha puesto de manifiesto esta tesis -. De hecho, la evaluación del afrontamiento y de la resiliencia debería proporcionar información sobre dos cosas. En primer lugar, la evaluación debería informar sobre el peso de cada tipo de situaciones en la activación de las diferentes estrategias (hay estrategias en general más activadas por una situación que por otra). En segundo lugar, debería informar también sobre el grado de sensibilidad de cada estudiante hacia cada situación, es decir, hasta qué punto el hecho de que él/ella se centre en la situación contribuye al uso de diferentes estrategias de afrontamiento. Por lo tanto, es necesario contextualizar la evaluación con el fin de determinar las maneras concretas de enfrentar la adversidad que deberían ser modificadas o, con el tiempo, fortalecidas.

El *segundo conjunto práctico de implicaciones* tiene que ver con *lo* que se debería enseñar. En este punto, una implicación general es que, si es posible, es importante

proporcionar ayuda a los estudiantes no sólo para desarrollar y utilizar las estrategias que configuran el afrontamiento enfocado a la resolución del problema, sino también para tomar conciencia de los efectos negativos relacionados con el uso de estrategias que configuran el estilo de afrontamiento centrado en la emoción. Debemos enseñar a los adolescentes a concentrarse en resolver los problemas, ya que esto afecta al sentido de autoeficacia y al sentido de dominio, porque, si no lo hacemos, cuanto más centrado/a en las emociones, más ansiedad mostrará el/la adolescente, y la resiliencia no se desarrollará. Por lo tanto, al menos debería promoverse el uso de las siguientes estrategias: 1) buscar una solución para el problema estresante; 2) pensar de manera positiva sobre las implicaciones del problema -por ejemplo, dándose uno mismo mensajes personales del tipo "los problemas tienen solución", "los errores le permiten a uno/a aprender", etc.-; 3) pedir ayuda solamente si es necesario; 4) evitar pensar en el problema si no tiene ninguna solución. A su vez, resulta necesario enseñarles a suprimir pensamientos negativos (rumiación), especialmente los que implican autoculpabilización.

Además de la implicación general sobre qué enseñar, los resultados de los diferentes estudios también tienen implicaciones sobre la enseñanza de estrategias específicas de afrontamiento que pueden ayudar a los estudiantes a ser resilientes. Por ejemplo, el efecto de los problemas con los compañeros, con los profesores y con los estudios sobre la activación de la *rumiación* es positivo, mientras que el efecto de los problemas con los padres es negativo. Dado que la *rumiación* pesa positivamente tanto sobre el EFC como sobre el PFC, resulta necesario considerar cuidadosamente la función que esta estrategia desempeña en cada caso particular con el fin de decidir si enseñar a confiar en la misma o evitarla. De manera análoga, el efecto de los problemas relacionados con los compañeros, con los profesores y con los estudios sobre la activación de la autoculpabilización es positivo, mientras que el efecto de los problemas con los padres

es negativo, aunque también alto y significativo. Por lo tanto, es necesario considerar la función de la presencia o ausencia de esta estrategia en cada una de estas situaciones para decidir cómo intervenir.

También es muy importante señalar que el orden -la secuenciación de las estrategias utilizadas- tiene un gran impacto en la resiliencia. Dada la relación hallada entre el sentido de relación y la resiliencia, se debería enseñar a los adolescentes a confrontar desafíos y dificultades por sí mismos antes de pedir ayuda y antes de ayudarles, para que puedan desarrollar sus recursos personales de afrontamiento. O, lo que es lo mismo, se les debería enseñar a pedir ayuda una vez que hayan tratado de resolver la dificultad por sí mismos (lo que significaría pedir ayuda sólo si la confrontación personal fracasara). Ocurre algo similar con la expresión emocional. Aunque a corto plazo ser capaz de desahogar las emociones pueda ser de gran ayuda para aliviar la ansiedad, si lo que realmente queremos es promover la resiliencia, debemos enseñar a los adolescentes a no atascarse en esta fase (llorar, hablar de ello...). Una vez la emoción ha sido identificada, asimilada y/o expresada, es necesario mostrarles cómo iniciar estrategias de resolución del problema. Nuestro objetivo es preparar a los adolescentes para el camino, y no preparar el camino para los adolescentes, ya que la sobreprotección parece constituir un obstáculo para la resiliencia.

El *tercer conjunto práctico de implicaciones* tiene que ver con la forma de ayudar a los estudiantes a ser resilientes mediante la creación de un clima motivacional de clase orientado hacia el aprendizaje. Sin embargo, hay una pregunta que requiere de cierta reflexión antes de describir las implicaciones de nuestros resultados. ¿Por qué un CMC orientado hacia el aprendizaje contribuye a mejorar la resiliencia? Uno de los principales efectos del CMC orientado hacia el aprendizaje es que aumenta la percepción de autoeficacia (Alonso-Tapia & Fernández-Heredia, 2008; Alonso-Tapia & Moral, 2010; Leal & Alonso-Tapia, 2017), y la autoeficacia es uno de los principales

factores que afectan a la resiliencia (Olsson et al., 2003). Por ejemplo, mientras los estudiantes intentan aprender y realizar tareas académicas en un contexto social que incluye a sus compañeros y sus profesores, tienen problemas y cometen errores; en un CMC orientado hacia el aprendizaje, los mensajes de los profesores señalan las razones de los fracasos y las dificultades, así como la manera de superarlos, lo que contribuye a aumentar su sentido de eficacia.

Por lo tanto, ¿qué pueden hacer los profesores a propósito para mejorar el clima motivacional de clase y, de esta manera, lograr que sus estudiantes experimenten una mejora en su resiliencia? La respuesta está en, al menos, las 16 pautas de motivación que conforman el CMC. Aunque pueda haber diferencias en la forma en que los estudiantes de diferentes contextos culturales perciben el valor motivacional de las pautas de enseñanza, todas las incluidas en el CMCQ tienen un gran valor motivacional para la mayoría de los estudiantes.

Al principio de la clase, los profesores deberían despertar el interés del estudiante (novedad) a través de problemas dados para resolver antes de explicar los procedimientos que permitirán resolverlos; deberían hacer preguntas para promover la participación, activar los conocimientos previos con el fin de aumentar la confianza de los estudiantes para hacer frente adecuadamente a las tareas, estimular el pensamiento (para relacionar los problemas) y comunicar el objetivo de la clase. Los objetivos deben ser siempre muy claros, rigurosos, factibles, ambiciosos y medibles.

Durante el desarrollo de las actividades de aprendizaje, y con el fin de favorecer que los alumnos sientan que progresan, es importante que los estudiantes perciban la organización, y también que el aprendizaje se realice paso a paso y a un ritmo adecuado. Si esto es así, cuando tengan que ser autosuficientes en su aprendizaje, habrán aprendido estrategias muy útiles que serán capaces de generalizar y por lo tanto, no se sentirán vulnerables. Existen, además, estrategias que promueven la mencionada

autonomía, tales como motivarlos para que indaguen e investiguen, para que busquen otros recursos, para que monitoreen su actividad de manera regular, para que exijan compromiso y responsabilidad respetando los plazos. Especialmente importante es darles retroalimentación sobre las razones de sus fracasos y sobre las formas de superarlos y, también, expresar mensajes que ayuden a percibir los errores como oportunidades de aprendizaje (no centrados en la nota sino en el progreso). Todas estas variables motivacionales están íntimamente ligadas a la dimensión emocional, por lo tanto los refuerzos positivos y los elogios deberían estar presentes, ya que favorecen el sentido de autoeficacia. Es importante crear un clima emocional en el cual los estudiantes perciban que hay un trato igualitario, en el cual sientan afecto y apoyo emocional por parte del/de la profesor/a.

En relación con el proceso de evaluación, los profesores deberían tener en cuenta en todo momento que la evaluación debe dirigirse, en primer lugar, a favorecer el aprendizaje y a ayudar a los alumnos a reflexionar sobre su proceso de aprendizaje: "¿Qué pasos he seguido para alcanzar el objetivo?", "¿Qué es lo que me resultó más difícil?", "¿Qué es de lo que más orgulloso estoy?". La autoevaluación no debe ser un producto, sino más bien un proceso continuo de verificación de lo que se ha aprendido, y un lugar para conseguir evidencia de aprendizaje. Esto se facilitará mediante un retroalimentación constante y regular, que permita a los estudiantes saber constantemente si están progresando o no, y en qué medida. Es decir, resulta necesario ayudar a los estudiantes adolescentes a razonar sobre su propio proceso de aprendizaje (metacognición) supervisando su trabajo de una manera transparente, accesible, constante y, preferentemente, visual. Este tipo de CMC favorecerá el desarrollo no sólo del aprendizaje, sino también de la autoeficacia y como consecuencia, probablemente también de la resiliencia.

Limitaciones y líneas de trabajo futuras

Esta tesis tiene algunas limitaciones que plantean nuevas preguntas de investigación.

En primer lugar, la evaluación de la resiliencia que ha permitido establecer las conclusiones evaluó la percepción de ser o no resiliente en diferentes contextos. Por lo tanto, se vuelve necesario completar los estudios con medidas objetivas que permitan obtener conclusiones más amplias.

En segundo lugar, los datos no han sido analizados desde una perspectiva de desarrollo, que incluyera a personas adultas. Puede suceder que la relación entre la resiliencia y los factores internos y externos que se ha evaluado varíe a causa de experiencias con diferentes tipos de problemas.

En tercer lugar, hay una hipótesis basada en la implicación según la cual los tipos de situaciones contribuyen a la activación de diferentes estrategias y en diferente grado para cada alumno. Aunque haya algunas pruebas que lo apoyen, esta suposición requiere ser verificada en relación con otros tipos de situaciones adversas.

En cuarto lugar, las relaciones entre CS, resiliencia y resiliencia que se han analizado se basan en correlaciones, por lo que no prueban la existencia de relaciones causales. Sólo son compatibles con las suposiciones causales. Sería necesario un tipo diferente de estudio para analizar la causalidad.

En quinto lugar, nuestros estudios no proporcionan información sobre la relación del CMC con el resultado, ya que las variables de criterio han sido motivacionales. Sin embargo, hay evidencias que apoyan una relación positiva aunque no muy alta (Alonso-Tapia & Moral, 2010; Alonso-Tapia, Simón, & Asensio, 2013). Se necesitan pruebas adicionales.

En sexto lugar, el CMC es sólo una parte del clima de clase, ya que éste también incluye el clima disciplinario (gestión) y el clima emocional de clase (Evans, Harvey, Buckley, & Yan, 2009). Es posible que la idoneidad del clima motivacional de clase

esté condicionada no sólo por las 16 variables mencionadas y evaluadas por el CMCQ, sino también por aquellas que configuran el clima disciplinario (Almog & Shechtman, 2007; Furlong, Morrison, & Fisher, 2005; Infantino & Little, 2005; Simón & Alonso-Tapia, 2015) o el clima emocional. Estos aspectos del clima de clase están relacionados y por lo tanto, el clima emocional -especialmente éste, debido a la importancia que el afecto tiene para el desarrollo de los estudiantes- y la gestión de la disciplina, podrían influir en el grado de cambio en la resiliencia experimentado por los estudiantes. El hecho de que una de las variables de CMC sea "dedicación a cada alumno" apunta en esta dirección. Por lo tanto, se necesitan más investigaciones sobre la relación entre la calidad afectiva de las interacciones entre profesores y estudiantes, y la resiliencia.

Por último, esta tesis plantea una cuestión importante con implicaciones teóricas y prácticas: ¿cuáles son las características de los docentes que son responsables de tales diferencias entre los grupos? Esta es una cuestión relevante ya que los programas de formación dirigidos a capacitar a los profesores para motivar a sus estudiantes deben centrarse en tales características. El hecho de que un profesor cree o no un CMC adecuado puede depender de diferentes factores: el conocimiento motivacional del docente, sus expectativas y metas con respecto a los estudiantes, los hábitos de enseñanza adquiridos, etc. Esta cuestión no ha sido aún lo suficientemente estudiada. Por tanto, se trata de una cuestión que hay que estudiar más a fondo.

Conclusions

At the beginning of this thesis, we started from a fact, namely that everyone, at some point in their lives, has to deal with adverse situations. Nevertheless, it is a fact that not everyone copes with in the same way. There are people who sink in front of difficulties, who get depressed, feel anxiety or stagnate, whereas others not only are able to cope with them but even to emerge strengthened from these situations.

If we could identify and measure what keeps an adolescent strong despite challenges he/she faces, we could help professionals to develop efficient intervention strategies aimed at aiding adolescents to react in a resilient way or to prevent them from sinking when they are exposed to adversities. With this objective as target, we began to ask questions ourselves and to carry out hypothesis, whose comparison gave as a result the discussion presented in this section.

With the aim of making easier the reading of conclusions, we will begin bringing back briefly the main queries that are the cause of this doctoral thesis. These queries have to do with the factors shown in Figure 8.1: what does an adolescent do that enables him/her to say that he/she does not get discouraged when facing an adverse situation, and what does make him/her different from the adolescent who says that he/she does get discouraged? What does resilience depend on that helps us therefore to intervene? To what extent does it depend on internal factors, such as coping strategies or personality factors? To what extent does it depend on external factors, such as society, culture, community or specific context in which we are? And if we focus on the school context, how can a teacher contribute to improve the perception of resilience of his/her students? To what degree the instructional factors facilitate change in resilience? Which would be, specifically, such instructional factors?

Based on our work's results, let's see to what extent we have been able to respond these questions by addressing their different interest fields.



Figure 8.1. Internal and external factors that may affect and be affected by resilience.

Cross-cultural analysis of resilience

The first paper relates to the nature and evaluation of resilience. The Spanish measure of subjective resilience developed by Alonso-Tapia, Nieto and Ruiz (2013) and the theoretical model underlying it seemed to be adequate. Therefore, the aim of the first study was to find a first answer to the following question: are there cultural differences that affect the perception that adolescents have of being resilient or not? As expected, the way subjective resilience has been operationalized and measured is valid not only in Spain but also in France, as explained next.

Results showed, in the first place, that resilience tends to generalize across situations, though it may vary depending on the context. These results are in line with similar studies demonstrating that resilience interacts with situations (Alonso-Tapia, Rodríguez-Rey, Garrido-Hernansaiz, Ruiz, & Nieto, 2016). The existence of more specific intermediate factors related to different kinds of adverse situations –those related to

teacher, peers and family behavior- suggests that resilience does not manifest in the same way in each context. Adolescents may act resiliently when facing a specific type of adversity, but not when facing a different one.

Secondly, results have shown some differences between Spanish and French students concerning the extent to which they recognize that the situation described in specific items makes them react in a resilient way or not. Convergence of answers was greater in Spanish than in French students. These differences were especially significant when items referred to a non-resilient reaction. These results imply that either the nature of the adverse situation or the fact of being aware of the way of reacting, or both things, are clearer for Spanish than for French students. This cultural difference is probably due to different educational patterns and learning experiences that should be identified.

Coping strategies and resilience

According to results of the first study, resilience tends to generalize across situations, though it varies in some degree, what implies that the way of dealing with adversities in each context is different. These facts took us to the questions dealt with in the three studies that followed. What do some adolescents do that allows them to say that they do not get discouraged when facing an adverse situation, and what makes them different from the adolescents that say they get discouraged? To what extent does resilience depend on internal factors, such as coping strategies? Besides, to what extent is the use of coping strategies moderated by the types of adverse situation, as the first study suggests?

A first major contribution of the second study has been to provide evidence of the importance of situations in the election of different coping strategies. Adolescents do not use the same strategies for dealing with every type of adverse situation, even though coping strategies generalize in some way. For instance, the use of rumination relates positively to the situation problems with peers, with teachers and with study, whereas

negatively in relation to the situation problems with parents. This fact can explain to a certain extent why resilience does not appear in the same degree across situations, though it also generalizes in some degree. The model created when developing the questionnaire used for this study –the PSCQA- has the advantage of allowing us to take into account both the weight of personal characteristics such as coping strategies and styles, and the weight of the situation when adolescents cope with adversity.

At this point, before going on with the main line of reflection on personal factors affecting resilience, it is important to consider the contributions of this work to the understanding of coping and to improve its measurement. As described in the second paper, a fact recognized by the scientific community is that no strategy itself is better or worse than any other, and that the adaptability depends on the specific context or situation (Folkman & Moskowitz, 2004; Skinner, Edge, Altman, & Sherwood, 2003). This is the reason that makes necessary to include the situation people have to cope with when assessing coping strategies, styles and processes both, when assessing people in clinical contexts and when assessing groups for research purposes. The PSCQA developed for this study shows a way of dealing with this problem. However, it is not a complete questionnaire –probably no questionnaire will be complete- because the number of adverse situations is enormous and so is the number of possible coping strategies (Skinner & Zimmer-Gembeck, 2007). Although the strategies included in the PSCQA are the ones with most predictive power (Kato, 2013), and so they seem to be the most important ones, it does not imply that the only strategies used by adolescents are the ones included in the PSCQA. Therefore, it is necessary to carry on studying coping from the perspective of person-situation interaction and developing new instruments with this purpose.

A result that also deserves consideration is the particular structure of coping strategies and styles identified in this study. According to this structure, the coping

strategies assessed by the PSCQA can be grouped into two coping styles: *problem-focused coping* and *emotion-focused coping*. Nevertheless, the positive and significant correlation found between both coping styles suggests that adolescents could not be very consistent in adopting strategies corresponding to one style or the other. Given this result, the less adaptive style might interfere with the more adaptive style, a fact that can affect resilience. Therefore, we cannot conclude, that, in adolescence, there are two opposite types of coping clearly established.

This fact diverges with results obtained in previous studies on coping strategies in adults (Alonso-Tapia, Rodríguez-Rey, Garrido-Hernansaiz, Ruiz, & Nieto, 2016; Lazarus & Folkman, 1984; Skinner & Zimmer-Gembeck, 2007). In the study by Alonso-Tapia et al. (2016), the same coping strategies are organized in a three factor model: emotion-centered coping, problem-solving centered coping and social focused coping. This last study shows the existence of a negative correlation between the three styles in adults. The difference between the structure of coping in adolescents and adults, as well as the fact that in the first group coping styles correlate positively and in the second group correlate negatively may reflect an evolutionary difference.

A fact related to the point just commented, is that in adolescence each coping style is not as clearly defined as in adulthood. For example, rumination and thinking avoidance load on both coping styles. Traditionally, they were considered to be strategies that hamper the solution of the problem. However, results suggest that, in certain circumstances, the fact of thinking about the problem in a repetitive way is positive, perhaps because it might contribute to find a solution, and, in a similar way, that in some contexts “thinking-avoidance” may also be adaptive –perhaps, for example, when the problem has no solution. In any case, the fact that the use of coping strategies is not clearly established in adolescence suggests that they are still malleable, what opens the possibility to act on them through educational interventions.

Personality factors and resilience

Differences in resilience can depend on coping strategies and styles as shown above. However, it might also depend on differences in some personality factors, those that according to literature configure “resiliency” (Olsson et al., 2003; Prince-Embury, 2007; Prince-Embury & Saklofske, 2013, 2014). Therefore, we designed the third study with the aim of investigating the role of such factors on resilience. Its results have made several contributions to understand first, the way the factors considered are related between them and, secondly, the role they play in favoring or obstructing resilience. These contributions were explained in the paper, but there are some points that deserve to be considered in greater detail.

In the first place, according to results of study 3, sense of mastery (SM) and emotional reactivity (ER) predict the level of resilience as expected: the higher the SM, the higher the resilience will be, and the lower the ER, the higher the resilience will be. However, sense of relatedness (SR) does not predict resilience in a significant way, a finding that contradicts the expectations derived from Prince-Embury’s theory. In studies conducted by her, SR predicted resilience in a positive way. This lack of convergence is an important result that deserves additional consideration. If SR correlates positively and in a very high degree with SM, and SM correlates positively with resilience, why SR does not correlate also positively? A possible explanation may be that SR might be due to two different types of experiences. Adolescents’ awareness of SR may be due to high SM. This characteristic, when they have to cope with an adverse situation, can take them first to find the solution to the problem by themselves, and only if they do not succeed, to ask for help. If this were always the case, SR would correlate positively to resilience. However, adolescents’ awareness of SR may be also due to that when they have to cope with an adversity, they have learned to ask for help in the first place. This strategy implies that SR is probably related in a positive way to

well-being, but not to resilience, because its use would be preventing the development of adequate strategies to deal with adverse situations if social help is lacking. As both cases may be present in a sample, the final relation of SR to resilience seems to be null, at least in adolescence. A parallel study carried out with adults (Alonso-Tapia, Garrido-Hernansaiz, Rodríguez-Rey, Ruiz, & Nieto, 2017) has shown that the relationship between SR and resilience is even negative, a result that contradicts Prince-Embury's point of view.

Secondly, SM and ER are negatively correlated in a very high degree. The higher the SM, the lower the ER and vice versa. An explanation to this negative correlation could be the following. It may be that SM implies the ability of regulating emotions in a positive way. If this hypothesis was true, the higher SM, the lower ER. An alternative hypothesis would be that as ER increases, it obstructs the development of strategies for regulating emotions in a positive way. This hypothesis is compatible with the previous one. Besides, as SM correlates positively to resilience and ER does it negatively, both hypotheses point to a clear objective for interventions aimed at improving resilience: to teach adolescents strategies for regulating emotions in a positive way.

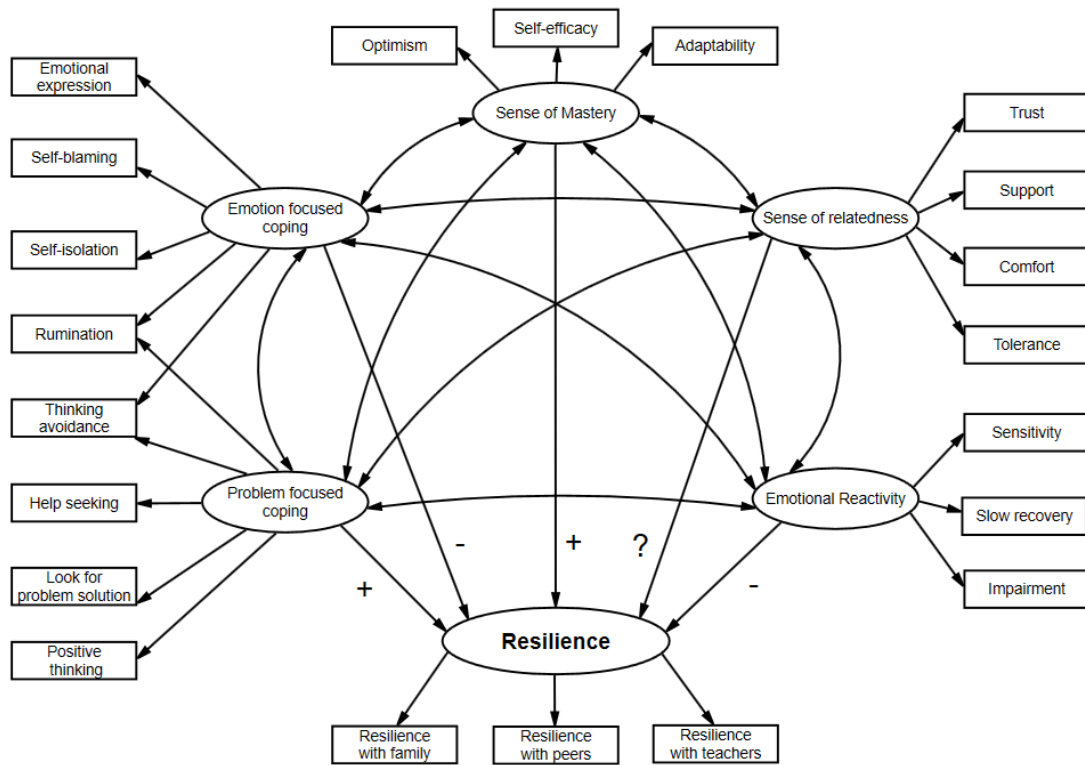
Third, another result to be commented related to SR is the following. In order to understand the nature of SR, in the third study it was tested its potential effect on "*social acceptance and integration*" as well as whether this social characteristic could act as a mediator between SR and resilience. It was found that there is a high and positive correlation between SR and *social acceptance and integration*. This fact implies, in line with results found by several researchers (Caprara et al., 2000; Kern et al., 2015; Wentzel & Caldwell, 1997; Dillon & Wink, 2003), that the characteristics configuring SR –trust, support, comfort & tolerance- contribute to well-being. However, the lack of correlation between "*social acceptance and integration*" and resilience implies that SR does not necessarily contribute to resilience. If a person is socially

adapted, accepted and integrated, he/she may or may not be resilient. In the same way, if social help is lacking, people may be able or not to bounce back from significant adverse situations. It depends mainly on MR, as to personality characteristics concerns.

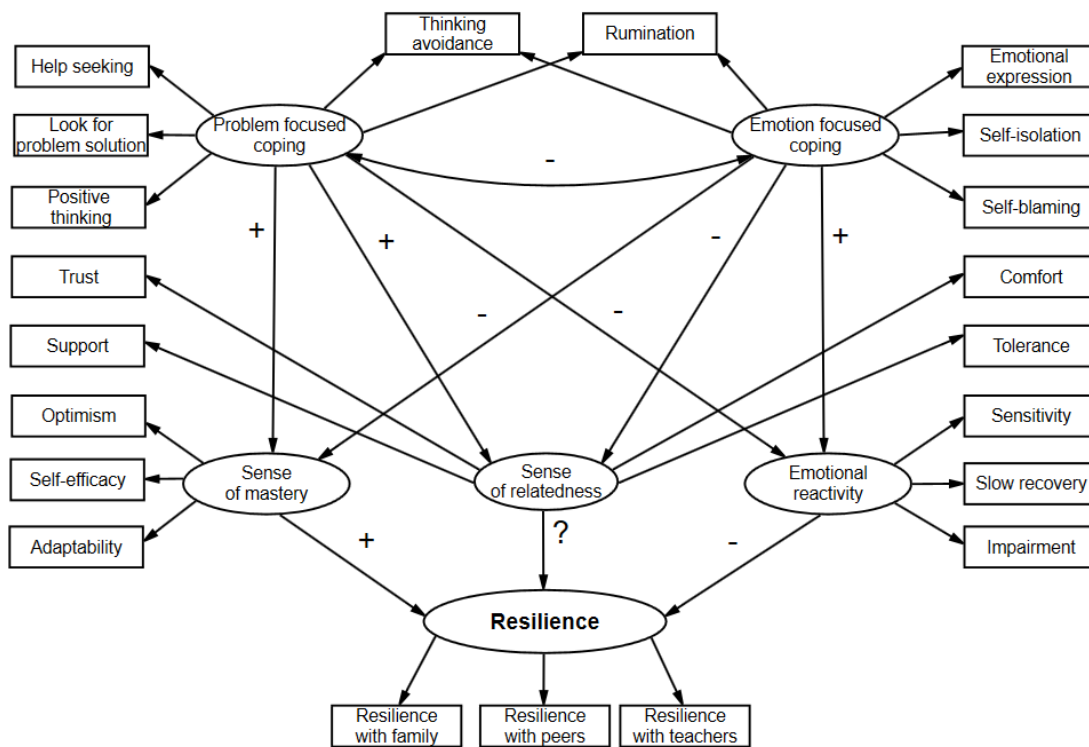
In summary, the main implication of the study of relationships between resiliency and resilience is that, as people have often to deal with adverse situations alone, in order to promote resilience, it is better to strengthen their SM and, probably, the development of positive emotion self-regulation strategies. Hence, apart from having supportive relationships, the internal mechanisms that help people to be able to relate to others in a meaningful and long-lasting way are the key to be resilient in the face of adversity.

Coping, resiliency and resilience

The previous studies have established the importance of coping strategies as processes underlying resilience, and the modulating role of personality factors. However, these two kinds of characteristics could be related, a possibility that raised the next question: which is the relative weight of each of these personal characteristics for predicting resilience? To find the answer to this question was the objective of the fourth study, an objective for which two predictive models of the hypothetical relationships between coping, resiliency and resilience, shown again in Figures 8.2 and 8.3, were developed.



Model 1



Model 2

Figures 8.2 and 8.3. Tested models on the relative weight of personal factors predicting resilience.

As a general conclusion, it is clear in both models that *resilience* depends mainly on coping strategies, positively in the case of problem-solving focused strategies and negatively in the case of emotion-centered strategies. Results corresponding to the second model, however, are compatible with the hypothesis according to which personality variables might play a mediating role, as explained below.

First, results are compatible with the following hypothesis. On one side, they are compatible with the idea that people that usually focus on solving the problems when confronting adverse situations tend to develop a high sense of mastery, and that this sense of mastery contributes to achieve resilience –probably because the same coping strategies are used again and again and become consolidated-. On the other side, they are also compatible with the idea that, if a person focuses on emotions using the kind of strategies included in the PSCQA, they will tend to develop or at least consolidate a high emotional reactivity, and this emotional reactivity will contribute to resilience negatively. A recent study carried out with adults (Rodríguez-Rey, 2016) points also in the same direction.

Secondly, results are also compatible with the hypothesis –not demonstrated- according to which, as far as adolescents’ attention focuses not only on solving external problems, but also on the positive self-regulation of emotions (using strategies different from those included in the PSCQA), emotional reactivity will tend to decrease, what would produce an increase in resilience. The results of the above quoted study of Rodríguez-Rey point in the same direction.

Third, in paper three, when considering the effect of personality characteristics on resilience without taking into account the role of coping strategies, the relationship between SR and SM was positive and between SR and resilience was zero. In paper four, the dependence of SR on problem-focused coping was positive, whereas the relationship of SR and resilience was negative. In both studies, the relation of SR with

resilience runs against the suppositions of Prince-Embury, but this result is more accused in the case in which problem-focused coping is taken into consideration. These results, in line with those found in the study of Rodríguez-Rey (2016), could be explained by the hypothesis commented in the section devoted to study three. SR may be due to two different types of experiences. Adolescents' awareness of SR may be due to high SM, a variable affected by PFC. These last characteristics (SM and PFC) can take them first to find the solution to the problem by themselves, and only if they do not success, to ask for help. If this were always the case, SR would correlate positively to resilience. However, adolescents' awareness of SR may be also due to that when they have to cope with an adversity, they have learned to ask for help in the first place. This strategy imply that SR is probably related in a positive way to well-being, but not to resilience, because its use would be preventing the development of adequate strategies to deal with adverse situations if social help was lacking. As both cases may be present in a sample, the final relation of SR to resilience seems to be null, at least in adolescence. Nevertheless, the results of the fourth study imply that if the effect of problem-focused coping on resilience through SR is discounted, SR by itself has a negative effect. This effect could be explained by the hypothesis above stated: the adolescents that do not learn to cope with difficulties by themselves, and that rely mainly on others' help for coping with adversity, do not develop the strategies that allow them to bounce back and be resilient. Having a healthy network of social support contributes to well-being, but if, when having a problem, the first thing adolescents do is to turn to others, they do not learn to solve it for themselves. Therefore, the intervention, as we will discuss later, should be aimed at helping adolescents to deal with problems in an appropriate way (problem-solving centered strategies), which would increase their sense of mastery, and favor their emotional regulation.

Classroom factors affecting resilience

An important objective of our thesis was to find whether classroom factors affected resilience, as if the answer were positive, it would point a clear direction for interventions aimed at favoring resilience. Two works were made with this purpose. The study described in chapter 5, the first one, was carried out to analyze the cross-cultural validity of the Classroom Motivational Climate Questionnaire (CMCQ) (Alonso-Tapia & Fernández-Heredia, 2008) whose structure is shown in Figure 8.4, as this was the questionnaire to be used to achieve the objective above pointed. As for the second one, described in chapter 6, it studied the relationship between CMC, resilience and satisfaction with teacher's work. Next, only the main contributions of study 5 are included before centering on the commentary of the implications of the last one.

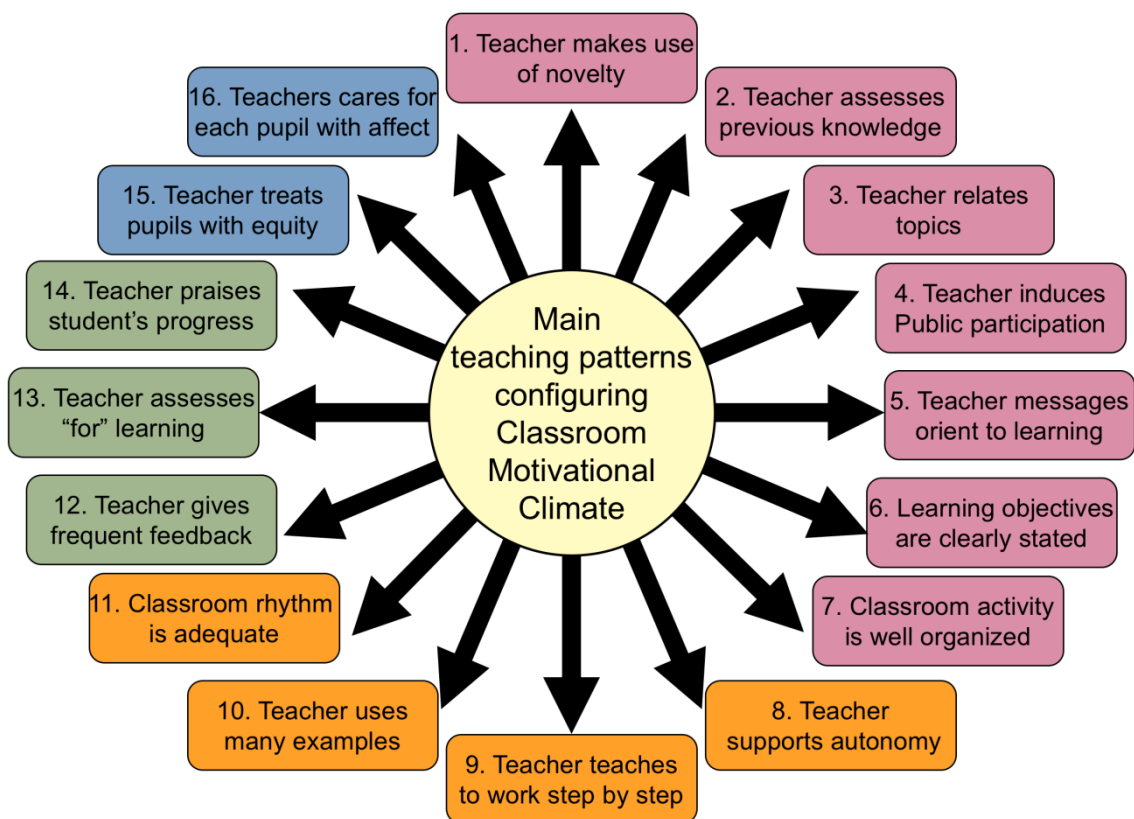


Figure 8.4. Variables configuring the Classroom Motivational Climate (Alonso-Tapia & Fernández-Heredia, 2008).

CMCQ cross-cultural study. The main contributions of this study are the following ones.

First, results had shown that the main components of CMCQ are the same for both countries, France and Spain. This result involves that motivation for learning of most of students would be favored by the generalized use of such strategies within the teaching activity.

Secondly, in line with previous studies (Alonso-Tapia & Fernández-Heredia, 2008, 2009; Alonso-Tapia & Moral, 2010; Leal & Alonso-Tapia, 2017), students link positive changes in motivational variables -interest, perceived ability (self-efficacy), success expectancies, and effort- to the presence of teaching patterns included in the CMCQ. At the same time, regression analyses have shown that “Satisfaction with teacher work” mainly depends on CMC as well as on perceived changes in the motivational variables just mentioned which, in turn, are attributed to CMC. These results highlight again how relevant is to generate a learning oriented CMC.

Third, significant differences were also found between Spanish and French students in the way they perceive the motivational value of the teaching patterns. “Promoting autonomy” is considered in a more positive way as a good indicator of a learning-oriented CMC in France than in Spain. On the contrary, most of the teaching patterns included in the CMCQ have a greater motivational value for Spanish students than for French students.

Fourth, results showed differences not just between students, but also between “groups” of students belonging to different teachers. This fact raises a key question whose answer has important theoretical and practical implications: which teacher characteristics are responsible for such differences between groups? This becomes an important question since training programs directed to enable teachers for motivating their students should be carried out by focusing on such characteristics. In answer to

these questions, a recent study not published yet (Alonso-Tapia, Ruiz & Huertas, 2017) will show empirical evidence of teachers factors affecting CMC.

CMC and resilience. Figure 8.5 shows a synthesis of the hypothesis tested in Study 6, whose main contributions are the following ones.

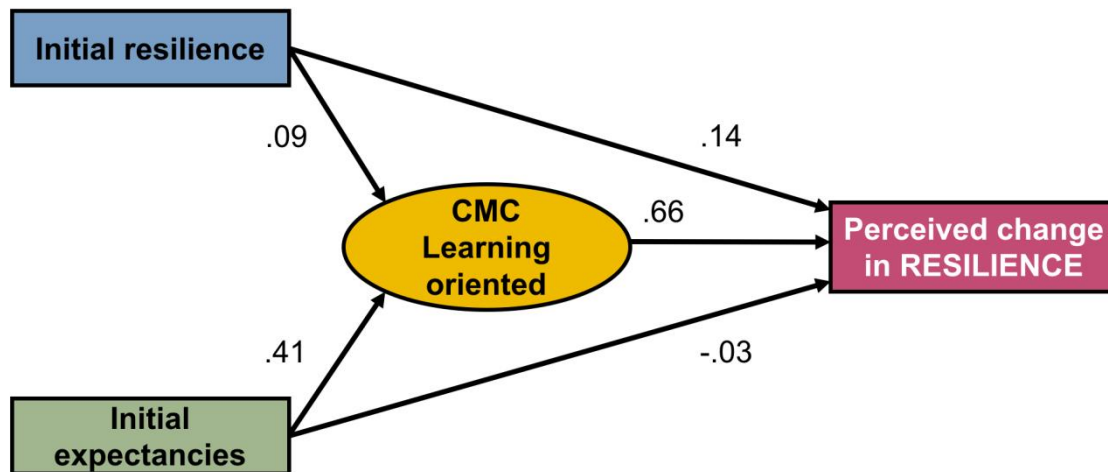


Figure 8.5: Baseline model to assess the perceived change in resilience.

First, the perceived change in resilience depends on the classroom motivational climate generated by the teacher in a high degree: the results show that 43.5% of this perceived change is attributed to the degree in which teachers' teaching patterns are learning oriented.

Second, expectations' effect on the perceived change in academic resilience is important, but not direct. If students have high expectations and perceive that the motivational climate created by the teacher is learning oriented, then they attribute their perception of change in resilience to the teacher in a 27%. This fact underlines the importance of favoring the development of self-efficacy and control expectancies in order to improve resilience. This implication is coherent with implications of results on studies 3 and 4, in which sense of mastery had, as one of its main components, self-efficacy and had a positive effect on resilience, mediating the effect of problem-solving centered coping.

Third, this work has shown too that the degree of initial resilience has almost no effect, neither direct nor indirect, on the attribution of the perceived change in resilience to teachers. No matter the initial subjective resilience level, as far as students perceive that their resilience has improved, they attribute this change to their teachers' behaviors that, in great degree, configure the classroom motivational climate learning oriented.

Practical implications

Our results have practical implications for the assessment of coping and resilience but, overall, they have clear educational implications for improving resilience, as they give us some ideas about *what* to teach, *how to teach* it working from the school, and *how to modify what we teach* depending on the types of adverse situations our students have to cope with.

The *first practical implication* of our results is based on that adolescents may be resilient facing a specific type of adversity, but not in front of another one. Therefore, it must be emphasized the importance of assessing resilience in the context of specific kinds of adverse situations in order to provide appropriate help. In students, coping strategies favoring resilience vary when facing family', teachers' and peers' actions that generate adverse and stressful experiences. Besides, coping differences are partly due to culture - as this thesis has shown-. In fact, coping and resilience assessment should inform of two things. First, assessment should inform of the weight of each type of situations in the activation of the different strategies (there are strategies more activated in general by a situation than by other). Second, it should inform also about the degree of each student's sensitivity to each situation, that is, to what extent the fact that he/she focuses on the situation contributes to the use of different coping strategies. Therefore, it is necessary to contextualize the assessment in order to see the specific ways of dealing with adversity that should be modified or, eventually, strengthened.

The *second practical set of implications* has to do with *what* should be taught. On this point, a general implication is that, if it is possible, it is important to provide students help not only to develop and use the strategies configuring the problem-solving focused coping, but also to gain awareness of the negative effects when using the strategies that configure the emotion-focused coping style. We must teach adolescents to focus on solving the problems, since this affects the sense of self-efficacy and sense of mastery

because, if we do not do that, the more focused on the emotions, the more anxiety will show, and resilience will not develop. Therefore, at least the use of the following strategies should be promoted: 1) to look for a solution for the stressful problem; 2) to think in a positive way about problem implications –for example, giving self-messages of the type “problems have solution”, “mistakes allow oneself to learn”, etc.-; 3) to ask for help only if necessary; 4) to avoid thinking about the problem if it has not any solution. In turn, it becomes necessary to teach them to suppress negative thoughts (rumination), especially those implying self-blaming.

Besides the general implication about what to teach, the results of the different studies have also implications about the teaching of specific coping strategies that can help students to be resilient. For example, the effect of problems with peers, with teachers and with studies on the activation of rumination is positive, whereas the effect of problems with parents is negative. As rumination weights positively both on EFC and on PFC, it is necessary to consider carefully the function this strategy is playing on each particular case in order to decide whether to teach to rely on it or to avoid it. In a similar way, the effect of problems with peers, with teachers and with studies on the activation of self-blaming is positive, whereas the effect of problems with parents is negative but also high and significant. Therefore, it is necessary to consider the function of the presence or absence of this strategy in each of such situations in order to decide how to intervene.

It is also very important to point out that the order -the sequencing the strategies used- has a great impact on resilience. Given the relationship found between sense of relatedness and resilience, adolescents should be taught to confront challenges and difficulties by themselves before asking for help and before helping them, so that they can develop their personal coping resources. Or, in other words, they should be taught to ask for help once they had tried to solve the difficulty for themselves (that would

mean to ask for help only if personal confrontation failed). It happens something similar with the emotional expression. Though in the short run to be able to express one's emotions can be of great help to alleviate anxiety, if we really want to promote resilience, we must teach adolescents not to stick to this phase (crying, talking about it...). Once the emotion has been identified, assimilated and/or expressed, it is necessary to show them how to initiate problem-solving strategies. Our objective is to prepare the adolescents for the way, and not the way for the adolescents, since overprotection seems to be an obstacle to resilience.

The *third practical set of implications* has to do with how to help students to become resilient by creating a classroom motivational climate learning oriented. However, a question deserves reflection before describing the implications of our results. Why does a CMC learning-oriented contribute to improve resilience? One of the main effects of CMC learning-oriented is that it increases the awareness of self-efficacy (Alonso-Tapia & Fernández-Heredia, 2008, 2009; Alonso-Tapia & Moral, 2010; Leal & Alonso-Tapia, 2017), and self-efficacy is one of the main factors affecting resilience (Olsson et al., 2003). For example, while students try to learn and carry out academic tasks in a social context that includes their classmates and their teachers, they have troubles and make mistakes, in a CMC learning-oriented, teachers' messages point the reasons of failures and difficulties as well as the way to overcome them, what contributes to increase the sense of efficacy.

Therefore, what can teachers purposely do in order to improve the classroom motivational climate, and in this way, to get their students to experience an improvement in their resilience? The answer is in, at least, the 16 motivational patterns that shape the CMC. Though there may be differences in the way the students from different cultural contexts perceive the motivational value of the teaching patterns, all that were included in the CMCQ have a great motivational value for the majority of the

students.

At the beginning of the class, teachers should awaken student's interest (novelty) through given problems to solve before explaining the procedures that will allow to solve them; they should make questions to promote participation, activate previous knowledge in order to increase student's confidence on dealing adequately with tasks, stimulate thinking (to relate issues) and communicate the goal of the class. The objectives should always be very clear, rigorous, feasible, ambitious and measurable.

During the development of learning activities, and in order to favor that students feel that they progress, it is important that students perceive organization, and also that learning takes place step by step and at an appropriate pace. If this is so, when they have to be self-sufficient in their learning, they will have learnt very useful strategies that will be able to generalize and so, they will not feel vulnerable. There are, besides, strategies which promote the aforementioned autonomy, such as motivating them to research, to look for other resources, to monitor in a transparent way, to demand commitment and responsibility by respecting the deadlines. Especially important is to give feedback on the reasons of failures and on the ways of overcoming them and, also, to express messages that help to perceive mistakes as learning opportunities (not focused on the mark but on the progress). All these motivational variables are intimately related to the emotional dimension, therefore positive reinforcement and praises should be present, since they favor sense of self-efficacy. It is important to create an emotional climate in which students perceive there is an equal treatment, and in which they feel affection and emotional support by the teacher.

In relation to the assessment process, teachers should also bear in mind at all times that assessment must be aimed, first of all, at favoring learning and helping students to reflect on their learning process: "What steps have I followed in order to attain the objective?", "What did I find the hardest?", "What am I proudest of?". Self-appraisal

must not be a final product, but rather a continuous process of verification of what has been learnt, and a place to capture an evidence of learning. This will be made easier by a constant and regular feedback, which allows students to constantly know whether they are making progress or not, and to what extent. That is, it becomes necessary to help adolescent students to reason about their own learning process (metacognition) by monitoring their work in a transparent, accessible, constant and, preferably, visual way. This kind of CMC will favor the development not only of learning, but also of self-efficacy and as a consequence, probably of resilience too.

Limitations and future lines of work

The present thesis has some limitations that set out new research questions.

First of all, the assessment on resilience that has enabled to establish the conclusions appraised the perception of being or not being resilient in different contexts. Therefore, it becomes necessary to complete the studies with objective measures that allow getting wider conclusions.

Secondly, data have not been analyzed from a developmental perspective including adult subjects. It may happen that the relationship between resilience and the internal and external factors that has been assessed varies due to experiences with different types of problems.

Third, there is a hypothesis based on the implication according to which the kinds of situations contribute to the activation of different strategies and in different degree for each student. Though there is some evidence supporting it, this supposition needs to be verified in relation to other kinds of adverse situations.

Fourthly, the relationships between CS, resiliency and resilience that have been analyzed are based on correlations, and so, they do not prove the existence of causal relations. They are only compatible with the causal suppositions. A different kind of study would be necessary to test causality.

Fifth, our studies do not provide information about the relation of CMC with achievement, since the criterion variables have been motivational. However, there is some evidence supporting a positive though not very high relationship (Alonso-Tapia & Moral, 2010; Alonso-Tapia, Simón, & Asensio, 2013). Therefore, additional evidence is needed.

Sixth, the CMC is only a part of the classroom climate, as this one also includes classroom discipline climate (managing) and classroom emotional climate (Evans et al., 2009). It may be that classroom motivational climate's suitability is conditioned not

only by the aforementioned 16 variables and assessed by CMCQ, but also by those that shape discipline climate (Almog & Shechtman, 2007; Furlong et al., 2005; Infantino & Little, 2005; Simón & Alonso-Tapia, 2015) or emotional climate. These aspects of classroom climate are related and so, the emotional climate - especially this one, due to the importance that affect has for students' development- and discipline management, could have influence on the degree of change in resilience experienced by students. The fact that one of the variables of CMC is "dedication to each student" points to this direction. Hence, further research is needed on the relationship concerning affective quality of interactions between teachers and students, and resilience.

Finally, this thesis raises an important question with theoretical and practical implications: which teacher characteristics are responsible for such differences between groups? This is a relevant question as training programs aimed at enabling teachers to motivate their students should be focused on such characteristics. The fact that a teacher creates or not an adequate CMC may depend on different factors: teacher's motivational knowledge, his/her expectancies and goals regarding students, acquired teaching habits, etc. This question has not been sufficiently studied yet. Consequently, this is a question to be further studied.

REFERENCES

References

- Almog, O., & Shechtman, Z. (2007). Teachers' democratic and efficacy beliefs and styles of coping with behavioural problems of pupils with special needs. *European Journal of Special Needs Education, 22*(2), 115-129. <http://dx.doi.org/10.1080/08856250701267774>
- Alonso-Tapia, J. (2005). Motivaciones, expectativas y valores-intereses relacionados con el aprendizaje [Motives, expectancies and values; learning-related interests]. *Psicothema, 17*(3), 404-411.
- Alonso-Tapia, J., & Moral, M. A. (2010). Percepción del Clima Motivacional de Clase en Estudiantes Adultos no Universitarios [Perception of classroom motivational climate in adult non-university students]. *Psicología Educativa, 16*(2), 115-133.
- Alonso-Tapia, J., & Fernández-Heredia, B. (2008). Development and initial validation of the classroom motivational climate questionnaire (CMCQ). *Psicothema, 20*(4), 883-889.
- Alonso-Tapia, J., & Fernández, B. (2009). Un modelo para el análisis del clima motivacional de clase: Validez transcultural e implicaciones educativas [Classroom motivational climate: Cross-cultural validity and educational implications]. *Infancia y Aprendizaje, 32*(4), 598-612. <http://dx.doi.org/10.1174/021037009789610368>
- Alonso-Tapia, J., Garrido-Hernansaiz, H., Rodríguez-Rey, R., Ruiz, M., & Nieto, C. (2017). Personal factors underlying resilience: development and validation of the Resiliency Questionnaire for Adults. *International Journal of Mental Health Promotion*. <http://dx.doi.org/10.1080/14623730.2017.1297248>
- Alonso-Tapia, J., Huertas, J. A., & Ruiz, M. A. (2010). On the nature of motivational orientations: Implications of assessed goals and gender differences for motivational goal theory. *The Spanish Journal of Psychology, 13*(1), 232-242.

- Alonso-Tapia, J., Nieto, C., & Ruiz, M. A. (2013). Measuring subjective resilience despite adversity due to family, peers and teachers. *The Spanish Journal of Psychology, 16*, E19. <http://dx.doi.org/10.1017/sjp.2013.33>
- Alonso-Tapia, J., Panadero, E., & Ruiz, M. A. D. (2014). Development and validity of the Emotion and Motivation Self-regulation Questionnaire (EMSR-Q). *The Spanish Journal of Psychology, 17*, E55. <http://dx.doi.org/10.1017/sjp.2014.41>
- Alonso-Tapia, J., & Pardo, A. (2006). Assessment of learning environment motivational quality from the point of view of secondary and high school learners. *Learning and Instruction, 16*(4), 295-309. <http://dx.doi.org/10.1016/j.learninstruc.2006.07.002>
- Alonso-Tapia, J., & Rodríguez-Rey, R. (2012). Situaciones de interacción y metas sociales en la adolescencia: Desarrollo y validación del Cuestionario de Metas Sociales (CMS) [Interaction situations and social goals in adolescence: Development and initial validation of the Social Goal Questionnaire (SGQ)]. *Estudios de Psicología, 33*(2), 191-206.
- Alonso-Tapia, J., Rodríguez-Rey, R., Garrido-Hernansaiz, H., Ruiz, M., & Nieto, C. (2016). Coping assessment from the perspective of the person-situation interaction: Development and validation of the Situated Coping Questionnaire for Adults (SCQA). *Psicothema, 28*(4), 479-486. <http://dx.doi.org/10.7334/psicothema2016.19>
- Alonso-Tapia, J., & Ruiz, M. A. (2007). Motives related to learning and perceptions of environment motivational quality: how do they interact in university students. *Psicothema, 19*(4), 602-608.
- Alonso-Tapia, J., Ruiz, M. A., & Huertas, J. A. (2017). Differences in classroom motivational climate: causes, effects and implications for teacher education. A multilevel study. *Paper submitted for publication.*

- Alonso-Tapia, J., & Simón, C. (2012). Differences between immigrant and national students in motivational variables and classroom-motivational-climate perception. *The Spanish Journal of Psychology, 15*(1), 61-74.
https://doi.org/10.5209/rev_SJOP.2012.v15.n1.37284
- Alonso-Tapia, J., Simón, C., & Asensio, C. (2013). Desarrollo y validación del Cuestionario de Clima Motivacional de la Familia (C-CMF). *Psicothema, 25*(2), 266-275. <http://dx.doi.org/10.7334/psicothema2012.218>
- Alonso-Tapia, J., & Villasana, M. (2014). Assessment of subjective resilience: cross-cultural validity and educational implications/Evaluación de la resiliencia subjetiva: validez transcultural e implicaciones educativas del ‘Cuestionario de Resiliencia Subjetiva’ (SRQ). *Infancia y Aprendizaje. Journal for the Study of Education and Development, 37*(3), 629-664. <http://dx.doi.org/10.1080/02103702.2014.965462>
- Ames, C. (1992). Achievement goals and the classroom motivational climate. In D. H. Schunk, & J. L. Meece (Eds.), *Student perceptions in the classroom* (pp. 327-348). New York: Lawrence Erlbaum.
- Ames, C. (1992). Classrooms: Goals, structures and student motivation. *Journal of Educational Psychology, 84*(3), 261-271. <http://dx.doi.org/10.1037/0022-0663.84.3.261>
- Arbuckle, J. L. (2003). *Amos 5.0 Update to the Amos User's Guide*. Chicago: Small Waters.
- Assor, A., Kaplan, H., & Roth, G. (2002). Choice is good but relevance is excellent: Autonomy affecting teacher behaviors that predict students' engagement in learning. *British Journal of Educational Psychology, 72*(2), 261-278.
- Atkinson, J. W. (1957). Motivational determinants of risk taking. *Psychological Review, 64*(6), 359-372.
- Bandura, A. (1997). *Self-efficacy: the exercise of control*. New York, NY: Freeman.

- Baruth, K. E., & Carroll, J. J. (2002). A formal assessment of resilience: The Baruth Protective Factors Inventory. *The Journal of Individual Psychology, 58*(3), 235-244.
- Block, J. (2001). Millennial contrarianism: The five-factor approach to personality description 5 years later. *Journal of Research in Personality, 35*(1), 98-107. <http://dx.doi.org/10.1006/jrpe.2000.2293>
- Bonanno, G. A. (2005). Resilience in the face of potential trauma. *Current Directions in Psychological Science, 14*(3), 135-138. <http://dx.doi.org/10.1111/j.0963-7214.2005.00347.x>
- Caprara, G. V., Barbaranelli, C., Pastorelli, C., Bandura, A., & Zimbardo, P. G. (2000). Prosocial foundations of children's academic achievement. *Psychological Science, 11*(4), 302-306. <http://dx.doi.org/10.1111/1467-9280.00260>
- Carver, C. S., & Connor-Smith, J. (2010). Personality and coping. *Annual review of psychology, 61*, 679-704. <http://dx.doi.org/10.1146/annurev.psych.093008.100352>
- Cicchetti, D., & Tucker, D. (1994). Development and self-regulatory structures of the mind. *Development and Psychopathology, 6*(04), 533-549.
- Clogg, C. C., Petkova, E., & Haritou, A. (1995). Statistical methods for comparing regression coefficients between models. *The American Journal of Sociology, 100*(5), 1261-1293. <http://dx.doi.org/10.1086/230638>
- Constantine, N. A., Benard, B., & Diaz, M. (1999). Measuring Protective Factors and Resilience Traits in Youth: The Healthy Kids Resilience Assessment. *Paper presented at the Seventh Annual Meeting of the Society for Prevention Research*. New Orleans, LA.
- Covington, M. V. (2002). Goal theory, motivation, and school achievement: An integrative review. *Annual Review of Psychology, 51*(1), 171-200.

- Davey, M., Eaker, D. G., & Walters, L. H. (2003). Resilience processes in adolescents: Personality profiles, self-worth, and coping. *Journal of Adolescent Research, 18*(4), 347-362. <http://dx.doi.org/10.1177/0743558403018004002>
- Davidson, R. J. (2000). Affective style, psychopathology and resilience: Brain mechanisms and plasticity. *American Psychologist, 55*(11), 1196-1214.
- De Corte, E. E., Verschaffel, L. E., Entwistle, N. E., & Van Merriënboer, J. E. (2003). *Powerful learning environments: Unravelling basic components and dimensions*. Pergamon/Elsevier Science Ltd.
- Deci, E. L., & Ryan, R. M. (2002). *Handbook of self-determination research*. Rochester, NY: University of Rochester Press.
- Dillon, M., & Wink, P. (2003). Religiousness and spirituality: Trajectories and vital involvement in late adulthood. *Handbook of the sociology of religion, 179-189*.
- Dweck, C., & Elliot, D. S. (1983). Achievement motivation. In P. H. Mussen (gen. Ed.), & E. M. Hetherington (vol. Ed.), *Handbook of child psychology. Vol IV: Social and personality development* (pp. 643-691). New York, NY: Wiley.
- Eccles, J. S., & Jacobs, J. E. (1986). Social forces shape math attitudes and performance. *Signs, 11*(2), 367-380.
- Eccles, J. S., & Wigfield, A. (2002). Motivational Beliefs, values, and goals. *Annual review of psychology, 53*(1), 109-132.
- Eisenberg, N., Fabes, R. A., & Guthrie, I. K. (1997). Coping with stress: The roles of regulation and development. In S. A. Wolchik, & I. N. Sandler (Eds.), *Handbook of children's coping: Linking theory and intervention* (pp. 41-70). New York, NY: Plenum Press.
- Elliot, A. J. (2005). A conceptual history of achievement goal construct. In A. J. Elliot & C. Dweck (Eds.): *Handbook of competence and motivation, 16*(2005), 52-72. New York: Guilford.

- Evans I. M., Harvey, S. T., Buckley, L., & Yan, E. (2009). Differentiating classroom climate concepts: Academic, management, and emotional environments. *Kōtuitui: New Zealand Journal of Social Sciences Online*, 4(2), 131-146.
<http://dx.doi.org/10.1080/1177083X.2009.9522449>
- Fernández-Heredia, B. (2009). *Desarrollo y validación de un cuestionario de clima motivacional de clase* (Unpublished Doctoral dissertation. Universidad Autónoma de Madrid).
- Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology*, 55, 745-774.
<http://dx.doi.org/10.1146/annurev.psych.55.09902.141456>
- Franzé, A. (2002). *“Lo que sabía, no valía”*: escuela, diversidad e inmigración. Madrid: Consejo Económico y Social de la Comunidad de Madrid.
- Fraser, B. J., Aldridge, J. M., & Adolphe, F. G. (2010). A cross-national study of secondary science classroom environments in Australia and Indonesia. *Research in Science Education*, 40(4), 551-571. <http://dx.doi.org/10.1007/s11165-009-9133>
- Furlong, M. J., Morrison, G. M., & Fisher, E. S. (2005). The influences of the school contexts and processes on violence and disruption in American schools. In P. Clough, P. Garner, J. T. Pardeck, & F. Yuen (Eds.), *Handbook of emotional & behavioural difficulties* (pp. 123-139). London, UK: SAGE Publications.
- Good, T. L., & Brophy, J. E. (2000). *Looking in classrooms* (8th ed.). New York: Addison Wesley Longman.
- Good, C., & Dweck, C. S. (2006). A motivational approach to reasoning, resilience and responsibility. In R. Sternberg, & R. Subotnik (Eds.), *Optimizing Student Success in School With the Other Three Rs: Reasoning, Resilience, and Responsibility* (pp. 39-56). Charlotte, NC: Information Age Publishing.

- Grolnick, W. S., Gurland, S. T., Jacob, K. F., & Decourcey, W. (2002). The development of self-determination in middle childhood and adolescence. In A. Wigfield & J. Eccles (Eds.), *Development of achievement motivation* (pp. 147-171). San Diego: Academic Press.
- Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology*, *81*(2), 143-154.
- Gulay, H. (2011). Assessment of the prosocial behaviors of young children with regard to social development, social skills, parental acceptance-rejection and peer relationships. *Journal of Instructional Psychology*, *38*(3-4), 164-172.
- Gustafsson, J. E., & Åberg-Bengtsson, L. (2010). Unidimensionality and interpretability of psychological instruments. In S. E. Embretson (Ed.), *Measuring psychological constructs: Advances in model-based approaches* (pp. 97-121). Washington, DC: American Psychological Association.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson-Prentice Hall.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tathan, R. L. (2006). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson-Prentice Hall.
- Hanson, T. L., & Kim, J. (2007). *Measuring resilience and youth development: the psychometric properties of the Healthy Kids Survey*. Institute of Education Sciences. U.S. Department of Education.
- Haselhuhn, C. W., Al-Mabuk, R., & Gabriele, A. (2007). Promoting positive achievement in the Middle School: A look at teachers' motivational knowledge, beliefs, and teaching practices. *Research in Middle Level Education*, *30*(9), 1-20.
- Hattie, J. A. C. (2012). *Visible learning for teachers. Maximizing impact on learning*. Routledge.

- Holzinger, K. J., & Swineforth, F. (1937). The bi-factor method. *Psychometrika*, 2(1), 41-54.
- Infantino, J., & Little, E. (2005). Students' perceptions of classroom behaviour problems and the effectiveness of different disciplinary methods. *Educational Psychology*, 25(5), 491-508. <http://dx.doi.org/10.1080/01443410500046549>
- Kato, T. (2013). Frequently used coping scales: A meta-analysis. *Stress and Health*, 31(4), 315-323. <http://dx.doi.org/10.1002/smi.2557>
- Kern, M. L., Waters, L. E., Adler, A., & White, M. A. (2015). A multidimensional approach to measuring well-being in students: Application of the PERMA framework. *The journal of positive psychology*, 10(3), 262-271. <http://dx.doi.org/10.1080/17439760.2014.936962>
- Kobasa, S. C., Maddi, S. R., & Kahn, S. (1982). Hardiness and health: A prospective study. *Journal of Personality and Social Psychology*, 42(1), 168-177. <http://dx.doi:10.1037/0022-3514.42.1.168>
- Kuhl, J. (1994). A theory of action and state orientations. In J. Kuhl, & J. Beckmann (Eds.), *Volition and personality: Action versus state orientation* (pp. 9-46). Seattle: Hogrefe and Huber.
- Lazarus, R. S. (2006). Emotions and Interpersonal Relationships: Toward a Person-Centered Conceptualization of Emotions and Coping. *Journal of Personality*, 74(1), 9-46. <http://dx.doi.org/10.1111/j.1467-6494.2005.00368.x>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer Publishing.
- Leal, F., & Alonso-Tapia, J. (*in press*). Cuestionario de Clima Motivacional de la Clase: validez intercultural, inter-género, evolutiva y predictiva. *Revista Iberoamericana de Evaluación Psicológica*.

- Leipold, B., & Greve, W. (2009). Resilience: A conceptual bridge between coping and development. *European Psychologist, 14*(1), 40-50. <http://dx.doi.org/10.1027/1016-9040.14.1.40>
- Leibovich, F., Schmidt, V., & Marro, C. (2002). Afrontamiento, en el malestar y su evaluación en diferentes contextos. *Eudeba. Buenos Aires*.
- Linnenbrink-García, A., Middleton, M. J., Ciani, K. D., Easter, M. A., O'Keefe, P. A., & Zusho, A. (2012). The strength of the relation between performance-approach and performance-avoidance goal orientations: Theoretical, methodological and instructional implications. *Educational Psychologist, 47*(4), 281-301. <http://dx.doi.org/10.1080/00461520.2012.722515>
- Luthar, S. S. (2006). Resilience in development: A synthesis of research across five decades. In D. Cicchetti, & D. J. Cohen (Eds.), *Development psychopathology: Risk, disorder and adaptation* (2nd ed., pp. 739-795). New York: Wiley.
- Luthar, S. S., & Brown, P. J. (2007). Maximizing resilience through diverse levels of inquiry: Prevailing paradigms, possibilities, and priorities for the future. *Development Psychopathology, 19*(3), 931-955. <http://dx.doi.org/10.1017/S0954579407000454>
- Mardia, K. V. (1970). Measures of multivariate skewness and kurtosis with applications. *Biometrika, 57*, 519-530.
- Martin, A. (2002). Motivation and academic resilience: Developing a model for student enhancement. *Australian journal of education, 46*(1), 34-49. <https://doi.org/10.1177/000494410204600104>
- Martin, A. J., & Marsh, H. W. (2009). Academic resilience and academic buoyancy: Multidimensional and hierarchical conceptual framing of causes, correlates and cognate constructs. *Oxford Review of Education, 35*(3), 353-370. <http://dx.doi.org/10.1080/03054980902934639>

- Marusak, A., Martin, K. R., Etkin, A., & Thomason, M. E. (2015). Childhood trauma exposure disrupts the automatic regulation of emotional processing. *Neuropsychopharmacology*, *40*(5), 1250-1258.
<http://dx.doi.org/10.1038/npp.2014.311>
- Masten, A. S. (1994). Resilience in individual development: Successful adaptation despite risk and adversity. In M. C. Wang, & E. W. Gordon (Eds), *Educational resilience in inner-city America: Challenges and prospects* (pp. 3-25). Hillsdale, NJ: Erlbaum.
- Masten, A. S. (2007). Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology*, *19*(3), 921-930.
<http://dx.doi.org/10.1017/S0954579407000442>
- Masten, A. S. (2014). Global perspectives on resilience in children and youth. *Child development*, *85*(1), 6-20. <http://DOI: 10.1111/cdev.12205>
- Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *American Psychologist*, *53*(2), 205-220. doi:10.1037/0003-066X.53.2.205
- Masten, A. S., & Narayan, A. J. (2012). Child development in the context of disaster, war, and terrorism: Pathways of risk and resilience. *Annual Review of Psychology*, *63*(1), 227-257. <http://dx.doi.org/10.1146/annurev-psych-120710-100356>
- McDonald, R. P. (1999). *Test theory. A unified treatment*. Mahwah, NJ: Lawrence Erlbaum.
- Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006). Classroom goal structure, student motivation, and academic achievement. *Annual Review of Psychology*, *57*, 487-503. <http://dx.doi.org/10.1146/annurev.psych.56.091103.070258>

- Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., & Urdan, T. (2000). Manual for the patterns of adaptive learning scales. *Ann Arbor, 1001*, 48109-1259.
- Milioni, M., Alessandri, G., Eisenberg, N., Castellani, V., Zuffianno, A., Vecchione, M., & Caprara, G. V. (2015). Reciprocal relations between emotional self-efficacy beliefs and ego-resiliency across time. *Journal of Personality, 83*(5), 552-563.
<http://dx.doi.org/10.1111/jopy.12131>
- Norris, F. H., Stevens, S. P., Pfefferbaum, B., Wyche, K. F., & Pfefferbaum, R. L. (2008). Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness. *American journal of community psychology, 41*(1-2), 127-150.
<http://doi:10.1007/s10464-007-9156-6>
- Núñez, J. C., Vallejo, G., Rosario, P., Tuero, E., & Valle, A. (2014). Student, teacher, and school context variables predicting academic achievement in Biology: Analysis from a multilevel perspective. *Revista de Psicodidáctica, 19*(1), 145-171.
<http://dx.doi.org/10.1387/RevPsicodidact.7127>
- Olsson, C. A., Bond, L., Burns, J. M., Vella-Brodrick, D. A., & Sawyer, S. M. (2003). Adolescent resilience: A concept analysis. *Journal of Adolescence, 26*(1), 1-11.
[http://dx.doi.org/10.1016/S0140-1971\(02\)00118-5](http://dx.doi.org/10.1016/S0140-1971(02)00118-5)
- Patrick, H., Kaplan, A., & Ryan, A. M. (2011). Positive classroom motivational environments: Convergence between mastery goal structure and classroom social climate. *Journal of Educational Psychology, 103*(2), 367-382.
doi: 10.1037/a0023311.
- Pennington, B. F., & Welsh, M. (1995). Neuropsychology and developmental psychopathology. In Cicchetti and D. J. Cohen (Eds.), *Manual for developmental psychopathology* (Vol. 1, pp. 254-290). New York: John Wiley.

- Plaut, V. C., & Markus, H. R. (2005). The “inside” story: A cultural-historical analysis of being smart and motivated, American style. In Elliot, A., & Dweck, C. (2005). *Handbook of competence and motivation* (pp. 457-488). New York, NY: Guilford Press.
- Prince-Embury, S. (2007). *Resiliency Scales Manual: For Children & Adolescents: a Profile of Personal Strengths*. San Antonio, TX: Harcourt Assessment, Incorporated.
- Prince-Embury, S. (2013). Resiliency Scales for Children and Adolescents; Theory, Research and Clinical Application. In Prince-Embury, S., & Saklofske, D. (Eds.), *Resilience in Children, Adolescent and Adults* (pp. 19-44). New York: Springer.
- Prince-Embury, S. (2014). Three-factor model of personal resiliency and related interventions. In *Resilience interventions for youth in diverse populations* (pp. 25-57). Springer New York.
- Prince-Embury, S., & Courville, T. (2008a). Comparison of one-, two-, and three-factor models of personal resiliency using the resiliency scales for children and adolescents. *Canadian Journal of School Psychology, 23*(1), 11-25.
<https://doi.org/10.1177/0829573508316589>
- Prince-Embury, S., & Courville, T. (2008b). Measurement invariance of the resiliency scales for children and adolescents with respect to sex and age cohorts. *Canadian Journal of School Psychology, 23*(1), 26-40.
<http://dx.doi.org/10.1177/0829573508316590>
- Prince-Embury, S., & Saklofske D. H. (Eds.) (2013). *Resilience in children, adolescent and adults: Translating research into practice*. New York: Springer.
- Prince-Embury, S., & Saklofske, D. H. (2014). *Resilience interventions for youth in diverse populations*. New York, Springer.
- Reivich, K., & Shatte, A. (2002). *The Resilience Factor: 7 Keys to Finding Your Inner Strength And Overcoming Life's Hurdles*. Harmony.

- Riggs, E., & MacDougall, C. (2014). Child Health SIG: Child Resilience and equity - A child's right to be heard. *In-touch - Newsletter of the Public Health Association of Australia Inc.*, 31(3), 1-3.
- Rodríguez, M. N., & Ruiz, M. A. (2008). Atenuación de la asimetría y de la curtosis de las puntuaciones observadas mediante transformaciones de variables: Incidencia sobre la estructura factorial [Attenuation of skewness and kurtosis of observed scores by transforming variables: Effect on factor structure]. *Psicológica: Revista de metodología y psicología experimental*, 29(2), 205-227.
- Rodríguez-Rey, R. (2016). *Resilience: Its determinants and effects in parents of critically ill children and in pediatric intensive care staff*. Unpublished Doctoral Dissertation. Universidad Autónoma de Madrid.
- Rodríguez-Rey, R., Alonso-Tapia, J., & Garrido-Hernansaiz, H. (2015). Reliability and Validity of the Spanish Brief Resilience Scale (BRS). *Psychological Assessment*, 28(5), e101-e110. <http://dx.doi.org/10.1037/pas0000191>
- Rothbart, M. K., & Bates, J. E. (1998). Temperament. In W. Damon (Series, Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional and personality development* (5th ed., pp. 105-176). New York: Wiley.
- Rutter, M. (2013). Annual Research Review: Resilience - clinical implications. *Journal of Child Psychology and Psychiatry*, 54(4), 474-487.
<http://dx.doi.org/10.1111/j.1469-7610.2012.02615.x>
- Salili, F., & Hoosain, R. (2007). *Culture, motivation and learning: A multicultural perspective*. New York: Information Age Publishing.
- Schwarzer, R., & Schwarzer, C. (1996). A critical survey of coping instruments. In M. Zeidner, & N. S. Endler (Eds.), *Handbook of coping: Theory, research, applications* (pp. 107-132). New York, Wiley.

- Simón, C., & Alonso-Tapia, J. (2015). Positive Classroom Management: Effects of Disruption Management Climate on Behaviour and Satisfaction with Teacher//Clima positivo de gestión del aula: efectos del clima de gestión de la disrupción en el comportamiento y en la satisfacción con el profesorado. *Journal of Psychodidactics*, 21(1), 65-86.
<http://dx.doi.org/10.1387/RevPsicodidact.13202>
- Sinclair, B. B., & Fraser, B. J. (2002). Changing classroom environments in urban middle schools. *Learning Environments Research*, 5(3), 301-328.
<http://dx.doi.org/10.1023/A:1021976307020>
- Skinner, E. A., Edge, K., Altman, J., & Sherwood, H. (2003). Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychological Bulletin*, 129(2), 216-269. <http://dx.doi.org/10.1037/0033-2909.129.2.216>
- Skinner, E. A., & Zimmer-Gembeck, M. J. (2007). The development of coping. *Annual Review of Psychology*, 58, 119-144.
<http://dx.doi.org/10.1146/annurev.psych.58.110405.085705>
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E. M., Christopher, P. J., & Bernard, J. (2008). The brief Resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*, 15(3), 194-200.
<http://dx.doi.org/10.1080/10705500802222972>
- Trivedi, D. N. (2015). Stress and secondary school students. *International Journal for Research in Education*, 4(3). http://raijmr.com/wp-content/uploads/2015/05/1_1-7-Dr.-Dipti-N.-Trivedi.pdf
- Ungar, M. (2005). *Handbook for working with children and youth: Pathways to resilience across cultures and contexts*. Thousand Oaks, CA: Sage.

- Ungar, M., & Liebenberg, L. (2005). The International resilience project. *Handbook for working with children and youth, pathways to resilience across cultures and contexts*, 211-229.
- Urdan, T., & Turner, J. C. (2005). Competence Motivation in the Classroom. In Elliot, A. / Dweck, C. (2005). *Handbook of competence and motivation* (pp. 297-317). New York, Guilford Press.
- Uriarte, J. (2005). La resiliencia. Una nueva perspectiva en psicopatología del desarrollo. *Revista de Psicodidáctica*, 10(2), 61-80.
doi: 10.1387/RevPsicodidact.14848
- Villasana, M., Alonso-Tapia, J., & Ruiz, M. (2016). A model for assessing coping and its relation to resilience in adolescence from the perspective of “person-situation interaction”. *Personality and Individual Differences*, 98, 250-256.
<http://dx.doi.org/10.1016/j.paid.2016.04.053>
- Villasana, M., Alonso-Tapia, J., & Ruiz, M. A. (2017). Coping processes and personality factors as predictors of *resilience* in adolescent students: Validation of a structural model. *Revista de Psicodidáctica*, 22(2).
<http://dx.doi.org/10.1387/RevPsicodidact.16889>
- Villasana, M., Alonso-Tapia, J., & Ruiz, M. A. (*in press*). Personal factors underlying resilience in adolescence: Cross-cultural validity of the Prince-Embury model. *Spanish Journal of Psychology*.
- Vine, C., Hall, D., & Gardner, S. (2010). *Resilience... Successful Navigation Through Significant Threat*. Child & Family Partnership: Reaching IN... Reaching OUT.
- Weiner, B. (1986). *An attributional theory of motivation and emotion*. New York, NY: Springer.

- Wentzel, K. R., & Caldwell, K. (1997). Friendships, peer acceptance, and group membership: Reactions to academic achievement in middle school. *Child development, 68*(6), 1198-1209. doi:10.1111/j.1467-8624.1997.tb01994.x
- Werner, E. E. (2005). Resilience research. In *Resilience in children, families, and communities* (pp. 3-11). Springer US.
- Werner, E. E., & Smith, R. S. (1982). A longitudinal study of resilient children and youth. *New York, McGraw-Hill*.
- Werner, E. E., & Smith, R. S. (1992). *Overcoming the odds: High risk children from birth to adulthood*. Cornell University Press.
- Wigfield, A., & Eccles J. S. (1992). The development of achievement task values: A theoretical analysis. *Developmental Review, 12*(3), 265-310.
- Windle, G., Bennet, K. M., & Noyes, J. (2011). A methodological review of resilience measurement scales. *Health and Quality of Life Outcomes, 9*(1), 1-18.
<http://dx.doi.org/10.1186/1477-7525-9-8>
- Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist, 47*(4), 302-314. <http://dx.doi.org/10.1080/00461520.2012.722805>
- Zimmerman, B. J., & Schunk, D. H. (2008). Motivation: An essential dimension of self-regulated learning. In D. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning: Theory, research, and applications* (pp. 1-30). Mahwah, NJ: Erlbaum.

APPENDIX

Questionnaires in Spanish, English and French

Cuestionarios en español

Cuestionario de Resiliencia Subjetiva (SRQ)

Jesús Alonso-Tapia y Carmen Nieto (2011)

Instrucciones:

A continuación encontrarás una serie de afirmaciones sobre ti mismo con las que puedes estar más o menos de acuerdo. Señala, en la hoja de respuestas, la opción que mejor representa tu grado de acuerdo con el contenido de la afirmación, según la siguiente escala:

A	B	C	D	E
Totalmente en desacuerdo	Bastante en desacuerdo	Indiferente	Bastante de acuerdo	Totalmente de acuerdo

1. A pesar de que mis errores y limitaciones hagan que un/a profesor/a no me aprecien, procuro no desanimarme y me sigo esforzando en aprender.
2. Aunque una actividad me guste mucho, si mis compañeros me dejan solo/a me desmotivo y no pongo interés ni me esfuerzo en realizarla.
3. Si mis errores y limitaciones hacen que mis padres no me aprecien, procuro no desanimarme y sigo tratando de superarme y llevarme bien con todos.
4. Aunque el contenido de una asignatura me guste mucho, si veo que el profesor no me acepta ni intenta ayudarme, me desmotivo y no pongo interés ni me esfuerzo en aprenderla.
5. A pesar de que mis errores y limitaciones hagan que algunos compañeros no me aprecien, procuro no desanimarme y sigo tratando de llevarme bien con todos.
6. Aunque una actividad me guste mucho, si mis padres muestran desinterés o rechazo me desmotivo y no pongo interés ni me esfuerzo en realizarla.
7. Aunque un/a profesor/a no dedique tiempo para responder a mis preguntas o para atenderme cuando tengo alguna dificultad, normalmente me esfuerzo todo lo que puedo para aprender.
8. Si mis errores y limitaciones hacen que mis compañeros no me aprecien, se me quitan las ganas de esforzarme por llevarme bien con todos.
9. Aunque mis padres no me dediquen tiempo para escucharme cuando necesito su ayuda, no dejo que las dificultades me desanimen.
10. Si mis errores y limitaciones hacen que un profesor o una profesora no me aprecien, me desanimo y no me esfuerzo en aprender.
11. Aunque un/a compañero/a no me dedique tiempo para escucharme cuando necesito su ayuda, no dejo que las dificultades me desanimen.

12. Si mis errores y limitaciones hacen que mis padres no me aprecien, se me quitan las ganas de esforzarme por llevarme bien con ellos.
13. El hecho de que a menudo los profesores no me escuchen como me gustaría y me ignoren, no hace que el interés y esfuerzo que pongo en aprender disminuyan.
14. Si mis compañeros no me hacen caso cuando les necesito porque tengo algún problema, me desanimo y dejo de esforzarme por resolverlo.
15. Si mis padres no me tienen en cuenta cuando toman decisiones que pueden afectarme, no me preocupo demasiado y busco como arreglármelas solo.
16. Si un profesor no dedica tiempo para responder a mis preguntas o para atenderme cuando tengo alguna dificultad, me desanimo y dejo de esforzarme por aprender.
17. Si mis compañeros no me tienen en cuenta cuando organizan alguna actividad, no me preocupo demasiado porque busco otras cosas que hacer.
18. Si mis padres no me hacen caso cuando les necesito porque tengo algún problema, me desanimo y dejo de intentar resolverlo.
19. Si el contenido de una asignatura me gusta mucho, aunque vea que el profesor no me acepta ni intenta ayudarme, no me desmotivo y me esfuerzo en aprenderla.
20. El hecho de que a menudo mis compañeros no me escuchen como me gustaría y me ignoren hace que me sienta mal porque no sé qué hacer.
21. Si una actividad me gusta mucho o creo que debo hacerla, aunque mis padres no me apoyen, busco el modo de seguir adelante con ella sin desanimarme.
22. El hecho de que a menudo los profesores no me escuchen como me gustaría y me ignoren, hace que el interés y esfuerzo que pongo en aprender disminuyan.
23. Si una actividad me gusta mucho o creo que debo hacerla, aunque mis compañeros me dejen sólo no me desmotivo y sigo adelante con ella.
24. El hecho de que a menudo mis padres no me escuchen como me gustaría y me ignoren hace que me sienta mal porque no sé qué hacer.
25. A veces los profesores me dicen sólo que lo que hago o digo no es correcto, sin tratar de entender qué es lo que me resulta difícil, pero no por eso disminuye mi esfuerzo por aprender.
26. Si mis compañeros me critican porque no hago algo bien en lugar de tratar de entenderme, se me quitan las ganas de esforzarme por llevarme bien con ellos.
27. A veces mis padres me critican porque no hago algo bien en lugar de ayudarme, pero no por eso disminuye mi esfuerzo por superarme y mejorar.
28. A veces los profesores sólo me dicen que lo que hago o digo no es correcto, sin tratar de entender qué es lo que me resulta difícil, y eso hace que disminuya mi esfuerzo por aprender.
29. A veces mis amigos me critican porque no hago algo bien en lugar de ayudarme, pero no por eso disminuye mi esfuerzo por superarme y mejorar.
30. Si mis padres me critican porque no hago algo bien en lugar de tratar de entenderme, se me quitan las ganas de esforzarme por llevarme bien con ellos.

**Escala de Atribución del Cambio en la Resiliencia Percibida
al Trabajo del Profesor (PCRT)**

Jesús Alonso-Tapia y Carmen Nieto (2011)

Instrucciones:

A continuación encontrarás una serie de afirmaciones sobre ti mismo con las que puedes estar más o menos de acuerdo. Señala, en la hoja de respuestas, la opción que mejor representa tu grado de acuerdo con el contenido de la afirmación, según la siguiente escala:

1	2	3	4	5
Totalmente en desacuerdo	Bastante en desacuerdo	Indiferente	Bastante de acuerdo	Totalmente de acuerdo

1. El modo en que este/a profesor/a me ayuda a enfrentarme a las dificultades hace que cada vez me desanime menos cuando tengo algún fracaso en mis estudios.
2. Gracias a este/a profesor/a, si alguna vez mis compañeros se meten conmigo o me dejan de lado no suelo desanimarme y sé cómo reaccionar.
3. Aunque a veces tenga dificultades con mis padres, los consejos de este profesor hacen que cada vez me resulte más fácil no desanimarme por ello.
4. Con su actitud y consejos este/a profesor/a ha influido en que el rechazo o la indiferencia de otros profesores cada vez me afecten menos.
5. Este/a profesor/a está consiguiendo que cada vez que experimento dificultades y fracasos en mis estudios me desanime menos.
6. Si alguna vez mis compañeros me ignoran o intentan hacerme daño, no me desanimo y sé que hacer gracias al trabajo de este profesor.
7. Todos tenemos alguna vez dificultades con los padres, pero este profesor ha conseguido que sepa cómo enfrentarme a ellas sin desanimarme.
8. Si algún/a profesor/a me rechaza o pasa mí, no suelo desanimarme gracias a que este/a profesor/a nos ayuda a enfrentarnos a las dificultades de forma positiva.

Cuestionario de Afrontamiento Persona-Situación para Adolescentes (PSCQA)

Mercedes Villasana y Jesús Alonso-Tapia (2016)

Instrucciones:

Los chicos y chicas de tu edad a menudo experimentan problemas con los compañeros, con la familia, con los profesores y con otras personas en general, y se enfrentan a estos problemas de formas diferentes que pueden ser más o menos efectivas. Para conocer qué formas de enfrentarse a los problemas son más frecuentes y poder ayudar a aquellos que lo necesiten te pedimos que pienses señales el grado en que actúas de acuerdo con lo que dicen las afirmaciones siguientes, de acuerdo con la siguiente escala:

A	B	C	D	E
Nunca	Casi nunca	Algunas veces	A menudo	Casi siempre

A) Cuando tengo un problema importante con algún(a) **compañero(a)** *por algo que yo he hecho y que no le ha gustado:*

1. Me suelo quedar pensando en lo que he hecho, a menudo deseando que no hubiera ocurrido.
2. Procuero pensar en otras cosas o hacer algo que me ayude a no pensar en el problema.
3. Suelo aislarme para no tener que comentar con nadie lo que me pasa.
4. Suelo comentarlo con otra persona para desahogarme y que me ayude a saber qué hacer.
5. Procuero buscar por mí mismo/a la forma de remediar el problema.
6. Actúo sin pensarlo apenas, dejando salir mis sentimientos.
7. Me culpo a mí mismo/a por no pensar antes de actuar.
8. Suelo pensar en positivo, tratando de aprender de lo que ha ocurrido para que no vuelva a pasar.

B) Cuando me he disgustado con mis **padres** – con uno o los dos- *por algo importante sobre lo que hemos discutido:*

9. Me suelo quedar pensando en lo que ha pasado a menudo deseando que no hubiera ocurrido.
10. Procuero pensar en otras cosas o hacer algo que me ayude a no pensar en el problema.
11. Suelo aislarme para no tener que hablar con ellos del tema.
12. Suelo comentarlo con otra persona para desahogarme y que me ayude a ver cómo actuar.
13. Procuero buscar por mí mismo/a qué puedo decirles o qué puedo hacer para

remediar el problema.

14. Actúo sin pensarlo apenas, dejando salir mis sentimientos.
15. Me culpo a mí mismo/a por no haber sabido evitar la discusión.
16. Suelo pensar en positivo, tratando de ver qué puedo aprender de lo que ha pasado para que no vuelva a ocurrir.

C) Si alguna vez me disgusta por que un **profesor** me **trata en clase con indiferencia o rechazo, de modo que me hiere o me molesta:**

17. Me suelo quedar pensando en lo que ha pasado, a menudo deseando que no hubiera ocurrido.
18. Procuero pensar en otras cosas o hacer algo que me ayude a no pensar en él.
19. Suelo aislarme para no tener que hablar del problema con nadie.
20. Suelo comentarlo con otra persona para desahogarme y que me ayude a ver cómo actuar.
21. Procuero buscar por mí mismo qué puedo decirle o hacer para remediar el problema.
22. Actúo sin pensarlo apenas, dejando salir mis sentimientos.
23. Me culpo a mí mismo por no haber evitado que me trate mal.
24. Suelo pensar en positivo, tratando de aprender de lo que ha ocurrido para que no vuelva a pasar.

D) Cuando tengo un problema importante con algún(a) **compañero(a)** *por algo que ha dicho o hecho y que a mí me ha molestado:*

25. Me suelo quedar pensando en lo que me ha dicho o hecho, a menudo deseando que no hubiera ocurrido.
26. Procuero pensar en otras cosas o hacer algo que me ayude a no pensar en lo que me ha dicho o hecho.
27. Suelo aislarme para no tener que hablar del problema con nadie.
28. Suelo comentarlo con otra persona para desahogarme y que me ayude a ver cómo actuar.
29. Procuero buscar por mí mismo/a la forma de remediar el problema.
30. Actúo sin pensarlo apenas, dejando salir mis sentimientos.
31. Suelo culparme porque pienso que quizás la responsabilidad de lo que ha dicho o hecho haya sido mía.
32. Suelo pensar en positivo, tratando de aprender de lo que ha ocurrido para que no vuelva a pasar.

E) Si alguna vez tengo problemas en mis **estudios** porque veo que mi *aprendizaje y mi rendimiento no son los adecuados:*

33. Pienso a menudo en el problema, en que me gustaría que las cosas fuesen de otra manera.
34. Procuero pensar en otras cosas o hacer algo que me ayude a no pensar en el problema.

35. Suelo aislarme para no tener que comentar con nadie mis preocupaciones.
36. Suelo comentarlo con otra persona para desahogarme y que me ayude a saber qué hacer para mejorar mi aprendizaje.
37. Procuro buscar por mí mismo cómo mejorar mi aprendizaje y mi rendimiento.
38. Actúo sin pensarlo apenas, según siento o se me va ocurriendo en cada ocasión.
39. Me culpo a mí mismo por no haber estudiado más o por no haber prestado más atención.
40. Suelo pensar en positivo, tratando de aprender por qué no progreso para evitarlo en el futuro.

Escalas de factores personales subyacentes a la resiliencia

para Niños & Adolescentes

Prince-Embury (2007)

Instrucciones:

A continuación te presentamos una lista de cosas que les suceden a las personas, y que las personas piensan, sienten o hacen. Lee cada frase detenidamente y escoge la alternativa que mejor refleje la frecuencia en que te pasa a ti o en qué piensas así, utilizando la siguiente escala:

A	B	C	D	E
Nunca me pasa	Rara vez	Algunas veces	A menudo	Me pasa casi siempre

MAS

1. La vida es justa.
2. Puedo hacer que sucedan cosas buenas.
3. Puedo conseguir lo que necesite.
4. Puedo controlar lo que me sucede.
5. Hago las cosas bien.
6. Soy bueno arreglando cosas.
7. Soy bueno resolviendo problemas.
8. Tomo buenas decisiones.
9. Me puedo adaptar cuando cambia una situación.
10. Puedo superar los problemas que surgen en mi camino.
11. Si tengo un problema lo puedo solucionar.
12. Sé que si lo intento de verdad, no da lo mismo: algo consigo.
13. Si no tengo éxito a la primera, sigo intentándolo.
14. Puedo pensar en más de una manera de solucionar un problema.
15. Soy capaz de aprender de mis errores.
16. No me cuesta pedir ayuda si la necesito.
17. Puedo dejar a otros que me ayuden cuando lo necesito.
18. Sé que me van a ocurrir cosas buenas.
19. Sé que voy a ser feliz.
20. Pase lo que pase, sé que todo va a ir bien.

REL

21. Puedo conocer gente nueva con facilidad.
22. Puedo hacer amigos con facilidad.
23. A la gente le gusto.
24. Me siento tranquilo con gente.
25. Tengo un buen amigo.
26. Me gusta la gente.
27. Paso tiempo con mis amigos.
28. La gente me trata bien.
29. Soy capaz de confiar en los demás.
30. Soy capaz de dejar que otros vean mis verdaderos sentimientos.
31. Soy capaz de decir a otros que no estoy de acuerdo con ellos con toda tranquilidad.
32. Tras una pelea con los amigos soy capaz de reconciliarme con ellos.
33. Si mis padres me ofenden o molestan, soy capaz de perdonarles.
34. Si otras personas me defraudan, soy capaz de perdonarles.
35. Puedo confiar en que los demás me van a tratar de manera justa.
36. Normalmente cuento con que los más cercanos a mí hagan lo correcto.
37. Soy capaz de decir con tranquilidad a un/a amigo/a si hace algo que me hiera.
38. Si sucede algo malo sé que puedo pedir ayuda a mis amigos.
39. Sé que si sucede algo malo puedo pedir ayuda a mi/s padre/s.
40. Sé que cuento con personas que me van a ayudar si ocurre algo malo.
41. Si me molesto o me enfado, tengo alguien con quien puedo hablar.
42. Hay gente que me quiere y se preocupa por mí.
43. La gente sabe quién soy en realidad.
44. La gente me acepta tal como soy.

REA

45. Me disgusto fácilmente.
46. La gente dice que me molesto y me irrito fácilmente.
47. Contraataco cuando alguien me irrita o me molesta.
48. Me disgusto mucho cuando las cosas no van a mi manera.
49. Me molesta mucho cuando no le gusto a la gente.
50. Me enfado tanto que no puedo soportar cómo me siento.
51. Me disgusto/enfado tanto que pierdo el control.
52. Cuando me disgusto no pienso con claridad.
53. Cuando me irrito reacciono sin pensar.
54. Cuando me disgusto sigo alterado/a durante una hora.
55. Cuando me irrito sigo alterado/a durante varias horas.

56. Cuando me molesto sigo alterado/a durante todo el día.
57. Cuando me disgusto sigo alterado/a durante varios días.
58. Cuando estoy alterado/a cometo errores.
59. Cuando estoy disgustado/a hago las cosas mal.
60. Cuando estoy irritado/a me meto en problemas.
61. Cuando estoy alterado/a hago cosas de las cuales me arrepiento.
62. Cuando estoy disgustado/a me hago daño a mí mismo.
63. Cuando estoy irritado/a hago daño a alguien.
64. Cuando estoy alterado/a me siento confuso.

Cuestionario de Integración Social (IS)

Jesús Alonso-Tapia y Rocío Rodríguez-Rey (2012)

Instrucciones:

Señala el grado en que estés de acuerdo con cada una de las siguientes afirmaciones de acuerdo con la siguiente escala:

A	B	C	D	E
Muy en desacuerdo	Más bien en desacuerdo	Indiferente	Más bien de acuerdo	Muy de acuerdo

1. En el colegio me insultan con frecuencia.
2. Mis compañeros de clase, por lo general, me aceptan bien.
3. En el colegio hablan mal de mí a mis espaldas.
4. Estoy a gusto y me siento feliz con mis compañeros de clase.
5. En el colegio se ríen de mí con frecuencia.
6. Tengo compañeros que están dispuestos a defenderme cuando lo necesito.
7. En el colegio me he sentido marginado por mis compañeros/as.
8. Mis compañeros generalmente cuentan conmigo para lo que haga falta.
9. En el colegio he sido objeto de agresión física por parte de mis compañeros.
10. Tengo más amigos íntimos que muchos de mis compañeros.
11. En el colegio han destruido o robado cosas mías.
12. Considero que, en general, me llevo bien con la mayoría de los compañeros de mi clase.

Cuestionario de Clima Motivacional de Clase (CMC-Q)

Jesús Alonso-Tapia y Blanca Fernández-Heredia (2008)

Instrucciones:

Esta prueba contiene una serie de afirmaciones que se refieren a cómo percibes el ambiente de tu clase, a lo que crees que valoran tus compañeros y profesores y a cómo soléis trabajar. Tu tarea consiste en indicar, pensando lo que ocurre en las clases por las que se te pregunta, el grado en que estás de acuerdo con cada afirmación. Para responder, en la hoja de respuestas elige la opción que representa tu grado de acuerdo con el contenido de la afirmación, según la siguiente escala:

A	B	C	D	E
Totalmente en desacuerdo	Bastante en desacuerdo	Indiferente	Bastante de acuerdo	Totalmente de acuerdo

1. En esta clase, el/la profesor/a escucha nuestras opiniones y nos da bastante autonomía para trabajar.
2. En esta clase los exámenes que pone el profesor tienen poco que ver con lo que ha explicado en clase.
3. Este/a profesor/a antes de explicar trata de ver qué sabemos del tema.
4. Este/a profesor/a propone las cosas poco a poco y así es más fácil entenderlas.
5. En esta asignatura el/a profesor/a no fomenta la participación en la clase.
6. En esta clase pocos preguntan o piden ayuda al profesor/a porque es distante y no ayuda.
7. Este/a profesor/a tan pronto está con una cosa como con otra, y así no me aclaro.
8. En esta clase el/a profesor/a hace más caso a los más listos.
9. A menudo este/a profesor/a se pone a explicar como si supiéramos cosas que no sabemos.
10. A menudo, el modo de reaccionar del profesor/a en esta clase cuando uno se equivoca le hace sentirse mal.
11. Mi profesor/a sabe reconocer cuando nos esforzamos por aprender y nos valora por ello siempre que puede.
12. Este/a profesor/a nos estimula a comentarle las dudas que tenemos sobre los trabajos.
13. Este/a profesor/a se suele esforzar porque relacionemos lo nuevo que vamos aprendiendo con lo ya visto.
14. Este/a profesor/a pone pocos ejemplos, por lo que cuesta trabajo comprender lo que explica.

15. Hay personas que no saben elogiar lo bueno que hacen los demás, y éste/a profesor/a es una de ellas.
16. A este/a profesor/a se le nota que le importa mucho que aprendamos de verdad, no sólo de forma superficial.
17. Los exámenes de esta asignatura suelen ser bastante adecuados a lo que se ha trabajado en clase.
18. En esta clase los objetivos propuestos por el/a profesora/a cuando nos pone tareas no están claros.
19. En esta clase las instrucciones para las tareas son claras, de modo que sabemos qué hacer.
20. Este/a profesor/a utiliza imágenes, ejemplos o anécdotas con frecuencia para ilustrar lo que explica.
21. Este/a profesor/a te hace sentir que aunque te equivoques no pasa nada porque de los errores se aprende.
22. El/a profesor/a de esta clase no detiene su explicación para ayudar a los alumnos que no le siguen.
23. Mi profesor/a quiere de verdad que nosotros disfrutemos aprendiendo cosas nuevas.
24. En esta clase el/a profesor/a procura trataros a todos por igual, sin favoritismos.
25. A menudo este/a profesor/a nos presenta información nueva o sorprendente que despierta nuestro interés.
26. Cuando damos un tema en esta clase, no se suele hacer referencia a lo que ya hemos visto antes.
27. En esta asignatura, el/a profesor/a se adapta al ritmo de la clase, dando tiempo para pensar.
28. Las actividades que se piden en esta asignatura, están claras y cada uno sabe lo que tiene que conseguir.
29. Este/a profesor/a casi nunca nos deja opinar sobre cómo o con quién trabajar: nos deja poca libertad.
30. A este/a profesor/a le gusta que intervengamos, nos escucha y responde a nuestras preguntas.
31. En general el modo en que se nos explica y proponen las actividades es confuso: sería mejor ir por pasos.
32. En la clase de este/a profesor/a el trabajo es monótono, rutinario y carente de sentido.

Cuestionario para la evaluación del cambio motivacional atribuido al profesor

Blanca Fernández Heredia y Jesús Alonso Tapia

Instrucciones:

Esta prueba contiene una serie de afirmaciones que se refieren a cómo percibes el ambiente de tu clase, a lo que crees que valoran tus compañeros y profesores y a cómo soléis trabajar. Tu tarea consiste en indicar, pensando lo que ocurre en las clases por las que se te pregunta, el grado en que estás de acuerdo con cada afirmación. Para responder, en la hoja de respuestas elige la opción que representa tu grado de acuerdo con el contenido de la afirmación, según la siguiente escala:

A	B	C	D	E
Totalmente en desacuerdo	Bastante en desacuerdo	Indiferente	Bastante de acuerdo	Totalmente de acuerdo

1. Tal y como trabaja este/a profesor/a, sé que no voy a tener problemas para sacar una nota aceptable para mí.
2. Gracias al modo en que trabajamos con este/a profesor/a, mi interés por esta asignatura es bueno.
3. Creo que mi capacidad para comprender esta asignatura no ha mejorado debido a cómo enseña el/a profesor/a.
4. La forma en que este/a profesor/a plantea y organiza las clases contribuye muy positivamente a mi aprendizaje.
5. El esfuerzo que pongo para aprovechar en esta asignatura gracias al/a la profesor/a es suficiente para aprender.
6. Debido al modo en que enseña, veo difícil con este/a profesor/a obtener la calificación que deseo.
7. Lo bueno de este/a profesor/a es que hace que me interese por lo que enseña.
8. En conjunto, el modo en que este/a profesor/a trabaja y nos atiende no me ayuda mucho a aprender.
9. Una cosa buena de este/a profesor/a es que hace que me sienta capaz de aprender por mí mismo.
10. Este/a profesor/a hace que se me quiten las ganas de esforzarme por aprender su asignatura.
11. Este/a profesor/a hace que me sienta seguro cuando pienso en las calificaciones: seguro que serán positivas.

12. El modo en que en conjunto este/a profesor/a lleva las clases y el trabajo no me ayuda demasiado a aprender.
13. Este/a profesor/a hace que mi capacidad para aprender esta asignatura cada vez sea mejor.
14. La forma en que enseña este/a profesor/a no despierta en mi interés alguno por lo que enseña.
15. Gracias a la forma en que el/la profesor/a me estimula y anima al enseñar, me esfuerzo de verdad por aprender.
16. Si se pudiera elegir profesor/a aconsejaría a mis compañeros que eligieran a este/a sin dudar.

Cuestionario de expectativas

Jesús Alonso-Tapia (2001)

Instrucciones:

Como en el cuestionario anterior, en la hoja de respuestas elige la opción que representa tu grado de acuerdo con el contenido de la afirmación, según la siguiente escala:

A	B	C	D	E
Totalmente en desacuerdo	Bastante en desacuerdo	Indiferente	Bastante de acuerdo	Totalmente de acuerdo

1. Espero obtener buenos resultados en mis estudios gracias a mi esfuerzo y dedicación.
2. Por mucho interés y esfuerzo que ponga, no creo que llegue a entender bien las asignaturas de Ciencias.
3. Por mucho que estudie y me esfuerce, lo que es poco probable, nunca se me darán bien las Matemáticas.
4. Aunque me esfuerce, algo poco probable, no creo que materias como Geografía, Historia, etc. se me den bien.
5. Creo que si me esfuerzo por entenderlas, las Matemáticas se me pueden dar bastante bien.
6. Si me esfuerzo creo que puedo llegar a expresarme bien por escrito.
7. No soy particularmente trabajador, y aunque me esfuerce, no creo que consiga buenos resultados en mis estudios.
8. Por mucho interés y dedicación que ponga, lo que no suele ser mi caso, no creo que aprenda a redactar bien.
9. Con esfuerzo creo que puedo entender y sacar provecho de asignaturas como Geografía e Historia.
10. Creo que trabajando de firme puedo tener un buen rendimiento en las asignaturas de Ciencias.

Questionnaires in English

Subjective Resilience Questionnaire (SRQ)

Jesús Alonso-Tapia and Carmen Nieto (2011)

Instructions:

You will find a series of statements about yourself below which can apply more or less to your perception of yourself. Please read those statements and circle the option on the answer sheet that represents best your degree of agreement with the content of the statement, according to the following scale:

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Agree

1. Although my mistakes and limitations may make a teacher not appreciate me, I don't become discouraged and I make an effort to keep learning.
2. Even though I might really like an activity, if my classmates leave me on my own I get discouraged and I don't take interest, neither I make an effort to do it.
3. If my mistakes and limitations make my parents not appreciate me, I usually don't become discouraged and I keep trying to better myself and get along with everyone.
4. Although I love the content of a subject, if I notice that the teacher neither accepts me nor tries to help me, I get discouraged and I don't take interest on it, neither I strive to learn it.
5. Although my mistakes and limitations may make some classmates not appreciate me, I usually don't become discouraged and I keep trying to better myself and get along with everyone.
6. Even though I might really like an activity, if my parents show lack of interest or rejection I get discouraged and I don't take interest, neither I make an effort to do it.
7. Although a teacher doesn't devote time to answer my questions or pay some attention to me when I'm faced with a difficulty, I usually do my best to learn.
8. If my mistakes or limitations make my classmates not appreciate me, I don't feel like striving to get along with them anymore.
9. Although my parents don't devote time to listen to me when I need their help, I don't let difficulties discourage me.

10. If my mistakes and limitations make a teacher not appreciate me, I get discouraged and don't strive to learn.
11. Although a classmate doesn't devote time to listen to me when I need his/her help, I don't let difficulties discourage me.
12. If my mistakes or limitations make my parents not appreciate me, I don't feel like striving to get along with them anymore.
13. My interest and the effort I put into learning don't decrease just because of the fact that teachers usually don't listen to me as I would like them to or that I feel ignored by them.
14. If my classmates ignore me when I need them to help me with a problem, I get discouraged and stop striving to solve it.
15. If my parents don't take me into consideration when they make decisions that might affect me, I don't get too worried and I find a way to manage.
16. If a teacher doesn't devote time to answer my questions or pay some attention to me when I'm faced with a difficulty, I get discouraged and stop striving to learn.
17. If my classmates don't take me into consideration when they organise some event, I don't get too worried because I find other things to do.
18. If my parents ignore me when I need them to help me with a problem, I get discouraged and stop striving to solve it.
19. If I love the content of a subject, although I notice that the teacher neither accepts me nor tries to help me, I don't get discouraged and I strive to learn it.
20. The fact that my classmates usually don't listen to me as I would like them to -or that I feel ignored by them- makes me feel bad because I don't know what to do.
21. If I really like an activity or I think I should do it, I find the way to go on with it without getting discouraged even though my parents don't support me.
22. The fact that my teachers usually don't listen to me as I would like them to -or that I feel ignored by them- makes me feel bad because I don't know what to do.
23. If I really like an activity or I think I should do it, I go on with it without getting discouraged even though my classmates leave me on my own.
24. The fact that my parents usually don't listen to me as I would like them to -or that I feel ignored by them- makes me feel bad because I don't know what to do.
25. My teachers sometimes tell me that what I do or say is not correct, without trying to understand what is it that I find difficult, but that doesn't decrease my effort to learn.

26. If my classmates criticize me for not doing something well instead of trying to understand me, I don't feel like striving to get along with them anymore.
27. Sometimes my parents criticize me for not doing something well instead of trying to help me, but that doesn't decrease my effort to improve and better myself.
28. My teachers sometimes tell me that what I do or say is not correct, without trying to understand what is it that I find difficult, and that makes my effort to learn decrease.
29. Sometimes my friends criticize me for not doing something well instead of trying to help me, but that doesn't decrease my effort to improve and better myself.
30. If my parents criticize me for not doing something well instead of trying to understand me, I don't feel like striving to get along with them anymore.

Scale of Attribution of Perceived Change in Resilience to Teacher's Work (PCRT)

Jesús Alonso-Tapia and Carmen Nieto (2011)

Instructions:

You will find a series of statements about yourself below which can apply more or less to your perception of yourself. Please read those statements and circle the option on the answer sheet that represents best your degree of agreement with the content of the statement, according to the following scale:

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Agree

1. The way in which this teacher helps me face difficulties makes me get less and less discouraged when I have a failure in my studies.
2. Thanks to this teacher, if my classmates mess with me or leave me out, I seldom get discouraged and I know how to react.
3. Although I sometimes have difficulties with my parents, the advice this teacher gives me makes it easier for me not to get discouraged.
4. This teacher's attitude and advice have made that other teachers' rejection or indifference affects me less and less.
5. This teacher is achieving that I get less discouraged every time I face difficulties or failures in my studies.
6. If my classmates sometimes ignore me or try to hurt me, I don't get discouraged and know what to do due to this teacher's work.
7. We all sometimes have difficulties with our parents, but this teacher has achieved that I know how to face them without getting discouraged.
8. If any teacher rejects me or ignores me, I seldom get discouraged thanks to the fact that this teacher helps us face difficulties in a positive way.

Person-Situation Coping Questionnaire for Adolescents (PSCQA)

Mercedes Villasana and Jesús Alonso-Tapia (2016)

Instructions:

The girls and boys your age often undergo problems with peers, family, teachers and other people in general, and cope with these problems in different ways that may be more or less effective. In order to know which ways of coping with the problems are used more often as well as to help those who might need it, we ask you to think/mark to what degree you act in accordance to what the following statements say, according to the next scale:

A	B	C	D	E
Never	Almost never	Sometimes	Often	Almost always

A) When I have an important problem with a **peer for something I did and that he/she did not like**:

1. I usually stay thinking in what I did, often wishing that it had not happened.
2. I try to think about other things or to do something that helps me not thinking about the problem.
3. I usually isolate myself to not to comment with anybody on what happens to me.
4. I usually comment it with another person in order to vent and so he/she helps me to know what to do.
5. I try by myself to look for the way to solve the problem.
6. I hardly act thinking about it, letting my feelings coming out.
7. I blame myself for not thinking before acting.
8. I usually think positively, trying to learn from what has happened in order to not to let it happen again.

B) When I get upset with my parents - either with one or both of them - **for something important about what we argued about**:

9. I usually stay thinking about what happened, often wishing that it had not happened.
10. I try to think of other things or to do something that helps me not to think about the problem.
11. I usually isolate myself for not to have to talk with them about the issue.
12. I usually comment it with another person in order to vent and so he/she helps me to know how to act.
13. I try by myself to look for what I might tell them or what I can do to solve the problem.

14. I hardly act thinking about it, letting my feelings coming out.
15. I blame myself for not having known to avoid the discussion.
16. I usually think positively, trying to see what I can learn from what has happened so it does not happen again.

C) If I ever get upset because a **teacher treats me at class with indifference or rejection, in a way which it hurts me or bothers me:**

17. I usually stay thinking about what happened, often wishing that it had not happened.
18. I try to think of other things or to do something that helps me not to think about the problem.
19. I usually isolate myself for not to have to talk about the issue with anybody.
20. I usually comment it with another person in order to vent and so he/she helps me to see how to act.
21. I try to look for by myself what I might tell them or what I can do to solve the problem.
22. I hardly act thinking about it, letting my feelings coming out.
23. I blame myself for not having avoided that she/he treated me badly.
24. I usually think positively, trying to learn from what has happened so it does not happen again.

D) When I have an important problem with some **peer for something he/she has said or done and that has annoyed me:**

25. I usually stay thinking about what she/he has told me or done to me, often wishing that it had not happened.
26. I try to think about other things or to do something that helps me not to think about the problem.
27. I usually isolate myself for not to have to talk about the issue with anybody.
28. I usually comment it with another person in order to vent and so he/she helps me to see how to act.
29. I try by myself to look for what I might tell them or what I can do to solve the problem.
30. I hardly act thinking about it, letting my feelings coming out.
31. I usually blame myself for not having avoided that she/he treated me badly.
32. I usually think positively, trying to learn from what has happened so it does not happen again.

E) If I ever have problems with my studies because I see that my **learning and my performance are not appropriate:**

33. I often think about the problem, about the fact that I would like things were otherwise.

34. I try to think of other things or to do something that helps me not to think about the problem.
35. I usually isolate myself for not to have to talk about my worries with anybody.
36. I usually comment it with another person in order to vent and so he/she helps me to know how to improve my learning.
37. I try to look for by myself how to improve my learning and my performance.
38. I hardly act thinking about it, according to what I feel or according to what it comes to my mind in each occasion.
39. I blame myself for not having studied more or for not having paid more attention.
40. I usually think positively, trying to learn why I do not progress and to avoid it in the future.

Resiliency Scales for Children & Adolescents (RSCA)

Prince-Embury (2007)

Instructions:

Here is a list of things that happen to people and that people think, feel, or do. Read each sentence carefully, and circle the one answer (Never, Rarely, Sometimes, Often, or Almost Always) that tells about you best. THERE IS NO RIGHT OR WRONG ANSWERS.

A	B	C	D	E
Never	Rarely	Sometimes	Often	Almost Always

MAS

1. Life is fair.
2. I can make good things happen.
3. I can get the things I need.
4. I can control what happens to me.
5. I do things well.
6. I am good at fixing things.
7. I am good at figuring things out.
8. I make good decisions.
9. I can adjust when plans change.
10. I can get past problems in my way.
11. If I have a problem, I can solve it.
12. If I try hard, it makes a difference.
13. If at first I don't succeed, I will keep on trying.
14. I can think of more than one way to solve a problem.
15. I can learn from my mistakes.
16. I can ask for help when I need to.
17. I can let others help me when I need to.
18. Good things will happen to me.
19. My life will be happy.

20. No matter what happens, things will be all right.

REL

21. I can meet new people easily.

22. I can make friends easily.

23. People like me.

24. I feel calm with people.

25. I have a good friend.

26. I like people.

27. I spend time with my friends.

28. Other people treat me well.

29. I can trust others.

30. I can let others see my real feelings.

31. I can calmly tell others that I don't agree with them.

32. I can make up with friends after a fight.

33. I can forgive my parent(s) if they upset me.

34. If people let me down, I can forgive them.

35. I can depend on people to treat me fairly.

36. I can depend on those closest to me to do the right thing.

37. I can calmly tell a friend if he or she does something that hurts me.

38. If something bad happens, I can ask my friends for help.

39. If something bad happens, I can ask my parent(s) for help.

40. There are people who will help me if something bad happens.

41. If I get upset or angry, there is someone I can talk to.

42. There are people who love and care about me.

43. People know who I really am.

44. People accept me for who I really am.

REA

45. It is easy for me to get upset.
46. People say that I am easy to upset.
47. I strike back when someone upsets me.
48. I get very upset when things don't go my way.
49. I get very upset when people don't like me.
50. I can get so upset that I can't stand how I feel.
51. I get so upset that I lose control.
52. When I get upset, I don't think clearly.
53. When I get upset, I react without thinking.
54. When I get upset, I stay upset for about one hour.
55. When I get upset, I stay upset for several hours.
56. When I get upset, I stay upset for the whole day.
57. When I get upset, I stay upset for several days.
58. When I am upset, I make mistakes.
59. When I am upset, I do the wrong thing.
60. When I am upset, I get into trouble.
61. When I am upset, I do things that I later feel bad about.
62. When I am upset, I hurt myself.
63. When I am upset, I hurt someone.
64. When I am upset, I get mixed-up.

Social Integration Questionnaire (SIQ)

Jesús Alonso-Tapia and Rocío Rodríguez-Rey (2012)

Instructions:

Point out the degree in which you agree with each of the following statements, according to this scale:

A	B	C	D	E
I strongly disagree	I rather disagree	Undecided	I rather agree	I strongly agree

1. I am often insulted at school.
2. I am generally well accepted by my peers.
3. At school they speak badly about me behind my back.
4. I am comfortable and happy with my peers.
5. At school they often laugh at me.
6. I have peers who are willing to defend me whenever I need.
7. At school I have felt marginalized by my peers.
8. My peers usually count on me to whatever they need.
9. At school I have been physically assaulted by my peers.
10. I have more close friends than lots of my friends.
11. At school they have destroyed or stolen stuff of mine.
12. I consider that I generally get along with most of my peers.

Classroom Motivational Climate Questionnaire (CMC-Q)

Jesús Alonso-Tapia and Blanca Fernández-Heredia (2008)

Instructions:

This test contains a series of statements on how you perceive the environment in your classroom, on what you believe your peers and teachers value, and on how you usually work. Your task is to indicate, after considering what happens in the class you are asked about, the extent to which you agree with each statement. Choose in the answer sheet the option that represents your level of agreement with the content of the statement, according to the following scale:

A	B	C	D	E
Completely in disagreement	Rather in disagreement	Indifferent	Rather in agreement	Completely in agreement

1. In this class, the teacher listens to our opinions and gives considerable autonomy to work.
2. In this class, the teacher gives exams that have little to do with classroom work.
3. This teacher explores what we know on a topic before explaining it.
4. This teacher explains step by step, and so it is easier to understand.
5. In this course, the teacher does not encourage class participation.
6. In this class, few pupils ask questions because this teacher is aloof and does not help.
7. This T changes from one moment to the next, and this is confusing.
8. In this class, the teacher devotes more time to smartest pupils.
9. Often this teacher begins to explain as if we knew what we do not know.
10. The way this teacher reacts when you are wrong often makes you feel bad.
11. This teacher praises our effort to learn whenever possible.
12. This teacher encourages us to tell him/her the doubts we have about the work.
13. This T tries to help us to relate new ideas with what we already know.
14. This teacher gives almost no examples: so it is difficult to understand what he/she explains.
15. There are people who cannot praise the good that others do, and this/a teacher is one of them.
16. You can feel that it is very important for this teacher that we reach deep learning – not superficial-.
17. Tests of this subject are usually quite adequate to what has been working in class.
18. In this class the objectives proposed by the teacher when give us a task are unclear.
19. In this class, task instructions are clear, so that we know what to do.

20. This teacher uses frequently images, examples or anecdotes to illustrate what he/she explains.
21. This teacher makes you feel that you can learn from errors.
22. This teacher does not stop his/her explanation to help students who do not follow it.
23. This teacher likes us to enjoy learning new things.
24. In this class the teacher treats all pupils with equity, without favoritism.
25. This teacher often presents new or surprising information, and so our interest rises.
26. When we give a theme in this class, usually the teacher does not relate it to what we have seen before.
27. This teacher adapts to our learning pace: he/she gives us time to think.
28. The tasks called for in this subject are clear and everyone knows what to do.
29. This teacher does not allow the freedom of choosing how to work or with whom.
30. This teacher likes us to participate, listens to us and answers to our questions.
31. Overall, the way our teacher explains and proposes the activities is confusing: it would be better to go step by step.
32. In the class of this teacher the work is monotonous and meaningless.

Questionnaires en français

Questionnaire de Résilience Subjective (SRQ)

Jesús Alonso-Tapia et Carmen Nieto (2011)

Instructions:

Vous trouverez par la suite une série d'affirmations sur vous-même avec lesquelles vous pouvez être plus ou moins d'accord. Veuillez indiquer, sur la feuille de réponses, l'option correspondant le plus avec votre point de vue selon l'échelle suivante:

A	B	C	D	E
Tout à fait en désaccord	Pas d'accord	Indécis	D'accord	Tout à fait d'accord

1. Si un(e) professeur(e) ne m'aime pas à cause de mes erreurs et limitations, d'habitude je ne me décourage pas et je m'efforce toujours d'apprendre.
2. Bien qu'une activité me plaise beaucoup, si mes camarades me laissent tout(e) seul(e) je me démotive et je n'y m'intéresse plus ni m'efforce plus à la réaliser.
3. Si mes parents ne m'aiment pas à cause de mes erreurs, d'habitude je ne me décourage pas et j'essaie de me surpasser et de m'entendre bien avec eux.
4. Même si le contenu d'une discipline me plaît beaucoup, si je vois que le/la professeur(e) ne m'aime pas et qu'il/elle n'essaie pas de m'aider, je me démotive et je ne m'y intéresse plus ni je m'efforce de l'apprendre.
5. Si quelques camarades ne m'aiment pas à cause de mes erreurs et limitations, je n'ai pas l'habitude de me décourager et je continue à essayer de m'entendre bien avec tous.
6. Même si une activité me plaît beaucoup, si mes parents montrent un manque d'intérêt ou s'y opposent, je me démotive et je ne m'y intéresse plus ni m'efforce de la faire.
7. Bien qu'un/une professeur(e) ne consacre pas de temps à me répondre quand je lui pose des questions ou à s'occuper de moi lorsque j'ai des difficultés, d'habitude je m'efforce tout ce que je peux pour apprendre.
8. Si mes camarades ne m'aiment pas à cause de mes erreurs et limitations, je n'ai plus d'envie de m'efforcer à m'entendre bien avec eux.
9. Bien que mes parents n'aient pas le temps de m'écouter quand j'ai besoin de leur aide, je ne laisse pas que les difficultés me découragent.
10. Si un/une professeur(e) ne m'aime pas à cause de mes erreurs et limitations, je me décourage et je ne fais plus d'efforts pour d'apprendre.

11. Bien qu'un camarade n'ait pas le temps de m'écouter quand j'ai besoin de son aide, je ne laisse pas que les difficultés me découragent.
12. Si mes parents ne m'aiment pas à cause de mes erreurs et limitations, je n'ai plus d'envie de m'efforcer à m'entendre bien avec eux.
13. Le fait que les professeurs ne m'écoutent pas si souvent comme je l'aimerais et qu'ils/elles m'ignorent ne fait pas que l'intérêt et les efforts que je fais pour apprendre diminuent.
14. Si mes camarades ne m'aident pas lorsque j'ai besoin d'eux parce que j'ai un problème, je me décourage et je ne m'efforce plus de résoudre ce problème.
15. Si mes parents ne comptent pas sur moi lorsqu'ils prennent des décisions qui me concernent, je ne m'inquiète pas trop et je cherche la manière de me débrouiller tout(e) seul(e).
16. Si un/une professeur(e) ne consacre pas de temps à répondre à mes questions ou à m'aider lorsque j'ai une difficulté, je me décourage et je ne fais plus d'efforts pour apprendre.
17. Si mes camarades ne comptent pas sur moi lorsqu'ils/elles organisent une activité, je ne m'inquiète pas trop parce que je cherche d'autres choses à faire.
18. Si mes parents ne me prêtent pas attention lorsque j'ai besoin d'eux parce que j'ai un problème, je me décourage et je n'essaie plus de résoudre ce problème.
19. Si j'aime beaucoup le contenu d'une discipline, même si je vois que le/la professeur(e) ne m'aime pas ni essaie de m'aider, je ne me démotive pas et je m'efforce pour l'apprendre.
20. Le fait que mes camarades ne m'écoutent pas si souvent comme je l'aimerais et qu'ils/elles m'ignorent me fait sentir mal parce que je ne sais pas quoi faire.
21. Si j'aime beaucoup une activité ou je pense que je dois la faire, même si mes parents ne m'encouragent pas, je cherche la manière de continuer avec elle sans me démoraliser.
22. Le fait que les professeurs ne m'écoutent pas si souvent comme je l'aimerais et qu'ils/elles m'ignorent diminue mon intérêt et je fais moins d'efforts pour apprendre.
23. Si j'aime beaucoup une activité ou je pense que je dois la faire, même si mes copains me laissent tout(e) seul(e), je ne me démotive pas et je continue avec l'activité.
24. Le fait que mes parents ne m'écoutent pas si souvent comme je l'aimerais et qu'ils m'ignorent me fait sentir mal parce que je ne sais pas quoi faire.
25. Parfois, les professeurs signalent seulement mes incorrections à propos de ce que je fais ou je dis sans essayer de comprendre ce que je trouve difficile ; cependant, je fais toujours d'efforts pour apprendre.

26. Si mes camarades me critiquent parce que je ne fais pas bien certaines choses - au lieu d'essayer de me comprendre- je n'ai plus envie de m'efforcer pour m'entendre avec eux.
27. Parfois mes parents, au lieu de m'aider, me critiquent parce que je ne fais pas bien certaines choses, cependant, je ne cesse pas de toujours m'efforcer à me surpasser et d'améliorer.
28. Parfois, les professeurs signalent seulement mes incorrections à propos de ce que je fais ou je dis sans essayer de comprendre ce que je trouve difficile et cela fait que je m'efforce moins d'apprendre.
29. Parfois mes amis, au lieu de m'aider, me critiquent parce que je ne fais pas bien certaines choses, mais cela ne fait diminuer pas mes efforts pour me surpasser et améliorer.
30. Si mes parents, au lieu d'essayer de me comprendre, me critiquent parce que je ne fais pas bien certaines choses, je n'ai plus d'envie de m'efforcer pour m'entendre bien avec eux.

Échelle d'Attribution du Changement dans la Résilience Perçue au Travail du

Professeur (PCRT)

Jesús Alonso-Tapia et Carmen Nieto (2011)

Instructions:

Ce test contient une série d'affirmations à propos de vous-même, Vous devrez indiquer votre accord ou désaccord avec chacune des affirmations. Pour y répondre, vous devrez choisir - sur la feuille de réponses- l'option correspondant le plus avec votre point de vue selon l'échelle suivante :

A	B	C	D	E
Tout à fait en désaccord	Pas d'accord	Indécis	D'accord	Tout à fait d'accord

1. Grâce à la manière dont ce/cette professeur(e) m'aide à affronter les difficultés, je me décourage de moins en moins lorsque je subis un échec dans mes études.
2. Grâce à ce/cette professeur(e), si mes camarades m'embêtent parfois ou m'ignorent, je ne me décourage pas et je sais comment réagir.
3. Bien que, parfois, je ne m'entends pas bien avec mes parents, les conseils de ce/cette professeur(e) m'aident à qu'il me soit de plus en plus facile de ne pas me décourager par la situation.
4. Avec son attitude et ses conseils, ce/cette professeur(e) m'a aidé à que l'indifférence ou le rejet d'autres professeurs me découragent de moins en moins.
5. Ce/cette professeur(e) a réussi à que je me décourage de moins en moins chaque fois que j'éprouve des difficultés ou je subis des échecs dans mes études.
6. Grâce au travail de ce/cette professeur(e), si parfois mes camarades m'ignorent ou essaient de me nuire, je ne me décourage pas et je sais comment réagir.
7. Parfois nous avons tous des problèmes avec nos parents, or ce/cette professeur(e) a réussi à que sache comment surmonter ces difficultés sans me décourager.
8. Si un/une professeur(e) me repousse ou ne veut rien savoir de moi, d'habitude je ne me décourage pas car ce/cette professeur/e nous aide à affronter les difficultés de manière positive.

Questionnaire du Climat Motivationnel de la Classe (CMC-Q)

J. Alonso-Tapia et Blanca Fernández-Heredia (2008)

Instructions :

Ce test contient une série d'affirmations à propos de la manière dont vous percevez l'ambiance de ta classe, la manière dont vos camarades et professeurs jugent -à votre avis- la classe, la manière d'y travailler habituellement et, finalement, à propos de vos attentes du cours. En pensant au déroulement de la classe signalée, vous devrez indiquer votre accord ou désaccord avec chacune des affirmations. Pour y répondre, vous devrez choisir - sur la feuille de réponses- l'option correspondant le plus avec votre point de vue selon l'échelle suivante :

A	B	C	D	E
Tout à fait en désaccord	Pas d'accord	Indécis	D'accord	Tout à fait d'accord

1. Dans ce cours, le/la professeur(e) écoute nos opinions et il/elle nous donne assez d'autonomie pour travailler.
2. Dans ce cours, les examens proposés par le/la professeur(e) ne correspondent pas tout à fait à ses explications.
3. Ce/Cette professeur(e) essaie de voir ce que l'on sait sur le sujet avant de l'expliquer.
4. Ce/Cette professeur(e) propose les choses peu à peu de sorte qu'il est plus facile de les comprendre.
5. Dans cette discipline, le/la professeur(e) n'encourage pas notre participation dans la classe.
6. Dans ce cours, peu d'élèves demandent de l'aide au/à la professeur(e) parce qu'il/elle est distante et ne nous aide pas.
7. Ce/Cette professeur(e) saute du coq à l'âne de sorte que je n'y comprends rien.
8. Dans ce cours, le/la professeur(e) prête plus d'attention aux plus doués.
9. Ce/Cette professeur(e) commence souvent à expliquer comme si on savait des choses qu'on ne sait pas.
10. Souvent, lorsqu'on se trompe dans la classe, le/la professeur(e), par sa manière de d'agir, nous fait sentir mal.
11. Mon/ma professeur(e) sait reconnaître lorsqu'on s'efforce pour apprendre et il/elle nous compliment pour cela chaque fois qu'il/elle le peut.
12. Ce/Cette professeur(e) nous encourage à lui poser les doutes que l'on a sur les travaux.
13. D'habitude, ce/cette professeur(e) fait des efforts pour qu'on mette en rapport ce que l'on vient d'apprendre avec ce que l'on a déjà appris.

14. Ce/Cette professeur(e) donne peu d'exemples, de sorte que l'on a du mal à comprendre ses explications.
15. Certaines personnes ont du mal à faire des éloges pour un bon travail et c'est le cas de ce /cette professeur(e).
16. On voit que pour ce/cette professeur(e) il est très important que nous apprenions en profondeur, pas de manière superficielle.
17. D'habitude, les examens de cette discipline sont assez appropriés à ce que l'on a travaillé en classe.
18. Dans ce cours, lorsque le/la professeur(e) nous propose des activités, les objectifs ne sont pas clairs.
19. Dans ce cours, les instructions des activités proposées sont claires de sorte que nous savons quoi faire.
20. Ce/Cette professeur(e) utilise fréquemment des images, des exemples ou d'anecdotes pour illustrer ce qu'il/elle explique.
21. Avec ce/cette professeur(e), on sent que même si on se trompe ce n'est pas grave car on peut apprendre des erreurs.
22. Le/la professeur(e) de ce cours n'arrête pas son explication pour aider les élèves qui ne le/la suivent pas.
23. Mon/ma professeur(e) veut véritablement que l'on s'amuse en apprenant de choses nouvelles.
24. Dans ce cours le/la professeur(e) tâche de nous traiter tous de la même façon, sans aucun favoritisme.
25. Souvent, ce/cette professeur(e) nous présente des informations nouvelles ou surprenantes qui éveillent notre intérêt.
26. Dans ce cours, lorsque nous traitons un nouvel sujet, on ne fait pas de références à ce que nous avons appris avant.
27. Dans ce cours, le/la professeur(e) s'adapte au rythme de la classe et nous donne du temps pour réfléchir.
28. Les activités exigées dans cette discipline sont claires et chacun sait quel est le résultat à obtenir.
29. Ce/Cette professeur(e) nous laisse rarement donner notre opinion sur comment ou avec qui travailler : il/elle nous laisse peu de liberté.
30. Ce/Cette professeur(e) aime que nous participions en classe, il/elle nous écoute et répond à nos questions.
31. En générale, la façon dont les activités sont expliquées et proposées est confuse : il vaudrait mieux d'aller petit à petit.
32. Dans le cours de ce/cette professeur(e), le travail est monotone, routinier et dépourvu de sens.

Questionnaire pour l'évaluation du changement motivationnel au professeur

Blanca Fernández Heredia et Jesús Alonso-Tapia

Instructions :

Ce test contient une série d'affirmations à propos de la manière dont vous percevez l'ambiance de ta classe, la manière dont vos camarades et professeurs jugent -à votre avis- la classe, la manière d'y travailler habituellement et, finalement, à propos de vos attentes du cours. En pensant au déroulement de la classe signalée, vous devrez indiquer votre accord ou désaccord avec chacune des affirmations. Pour y répondre, vous devrez choisir - sur la feuille de réponses- l'option correspondant le plus avec votre point de vue selon l'échelle suivante :

A	B	C	D	E
Tout à fait en désaccord	Pas d'accord	Indécis	D'accord	Tout à fait d'accord

1. Grâce à la manière de travailler de ce/cette professeur(e), je sais que je n'aurai pas de problèmes pour obtenir une qualification acceptable pour moi.
2. Grâce à la manière dont nous travaillons avec ce/cette professeur(e), mon intérêt pour cette discipline est haut.
3. Je crois que ma capacité de compréhension de la discipline n'a pas amélioré à cause de la manière dont le/la professeur(e) enseigne.
4. La façon dont ce/cette professeur(e) expose et organise les cours contribue très positivement à mon apprentissage.
5. Grâce au/à la professeur(e), les efforts que je fais pour profiter de cette discipline sont suffisants pour apprendre.
6. À cause de sa manière d'enseigner, je vois difficile d'obtenir la qualification que je désire avec ce/cette professeur(e).
7. Ce que le/la professeur(e) a de bon est qu'il/elle fait que je m'intéresse à ce qu'il/elle enseigne.
8. Grosso modo, la façon de travailler de ce/cette professeur(e) et l'attention qu'il nous prête ne m'aide pas beaucoup à apprendre.
9. Ce que le/la professeur(e) a de bon est qu'il/elle fait que je me sente capable d'apprendre par moi-même.
10. Ce/Cette professeur(e) fait que je n'aie pas envie de m'efforcer pour apprendre la discipline.
11. Ce/Cette professeur(e) fait que je sois sûr(e) quand je pense à mes qualifications : je suis certain(e) qu'elles seront positives.

12. Grosso modo, la manière dont le/la professeur(e) tient le cours et mène le travail ne m'aide pas beaucoup à apprendre.
13. Ce/Cette professeur(e) améliore ma capacité d'apprentissage.
14. La manière d'enseigner de ce/cette professeur(e) n'éveille aucun intérêt en moi à ce qu'il/elle enseigne.
15. La manière dont ce/cette professeur(e) m'encourage et me stimule lorsqu'il/elle m'enseigne fait que je m'efforce véritablement à apprendre
16. Si on pouvait choisir le/la professeur(e), j'encouragerais sans aucun doute mes camarades à le/la choisir.

Questionnaire d'expectatives

Jesús Alonso-Tapia (2001)

Instructions:

Comme dans le questionnaire en el précédent, sur la feuille de réponses vous devrez choisir l'option correspondant le plus avec votre point de vue selon l'échelle suivante :

A	B	C	D	E
Tout à fait en désaccord	Pas d'accord	Indécis	D'accord	Tout à fait d'accord

1. J'espère obtenir de bons résultats à mes études grâce à mon effort et dévouement.
2. Bien que je m'efforce et m'intéresse beaucoup aux Sciences, je crois que je n'arriverai pas à bien comprendre cette discipline.
3. Bien que j'étudie et m'efforce beaucoup - ce qui est peu probable - je ne serai jamais bon(ne) en mathématiques.
4. Bien que je m'efforce - ce qui est peu probable -, je crois que je ne serais pas bon(ne) en des disciplines comme la Géographie ou l'Histoire.
5. Je pense que si je m'efforce à les comprendre, je pourrai être assez bon(ne) en Mathématiques.
6. Si je m'efforce je crois que je peux arriver à bien m'exprimer par écrit.
7. Je ne suis pas particulièrement travailleur, et même si je m'efforce, je crois que je n'obtiendrai pas de bons résultats dans mes études.
8. Bien que je m'intéresse beaucoup et je m'efforce- ce qui n'est pas normalement mon cas- je pense que je n'apprendrai pas à bien rédiger.
9. Si je fais des efforts, je crois que je peux comprendre et tirer profit de matières comme la Géographie et l'Histoire.
10. Je pense qu'en travaillant ferme je peux avoir un bon rendement en Sciences.