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*Psiquiatria, Psicologia & Justiça*

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O perfil do doente inimputável da Unidade Local de Saúde da Guarda, E.P.E.

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## Resumo

A Psiquiatria Forense, enquanto ramo específico da Psiquiatria, é a ciência médica que aborda as doenças mentais e a sua relação com as normas legais. O que se pretendeu com este trabalho de investigação, de índole retrospectiva, foi traçar o perfil do doente inimputável da Unidade Local de Saúde (ULS) da Guarda, E.P.E. num período de 5 anos, e estabelecer uma comparação com as características correspondentes da população imputável, com recurso ao dados obtidos nos relatórios de exame às faculdades mentais dos examinados. Desta forma, verificou-se que o perfil do doente inimputável da ULS da Guarda, E.P.E. consiste num indivíduo português, do sexo masculino, de 44 anos de idade, solteiro, analfabeto e reformado. Comete um crime contra as pessoas ou um crime contra a vida em sociedade, tem antecedentes pessoais de doença psiquiátrica e não foi internado anteriormente em serviço de saúde. No exame mental, a única alteração é ao nível da forma do pensamento. É diagnosticado como sendo portador de deficiência mental, sem diagnóstico associado, e não apresenta perigosidade.

*Palavras-chave:* justiça, forense, perfil, inimputabilidade

O perfil do doente inimputável da Unidade Local de Saúde da Guarda, E.P.E.

A Psiquiatria Forense, enquanto ramo específico da Psiquiatria, corresponde à interface entre a Psiquiatria e o Direito, na medida em que coloca o saber psiquiátrico ao serviço dos assuntos relacionados com a Lei.

O Direito Penal, ramo do Direito Público, tem como função a proteção de bens e valores fundamentais da sociedade e de defesa da liberdade da pessoa (Pereira, 2005). As perícias médico-legais, solicitadas no âmbito do Direito Penal são regulamentadas pelos artigos 151º a 163º do Capítulo VI do Código de Processo Penal e pelo Decreto-Lei 325/86 de 29/9/1986. Na prática, um parecer psiquiátrico, neste domínio, tem como propósito esclarecer o juiz em relação à imputabilidade do arguido, embora não tenha carácter vinculativo. Segundo Pereira (2005), a imputabilidade, conceito fundamental em matéria de Direito Penal, refere-se ao estado dum pessoa, com grau mínimo de maturidade e certa sanidade mental, a quem pode atribuir-se o ato praticado, a título de culpa. No Código Penal Português, a imputabilidade é atingida aos 16 anos de idade.

De acordo com Graça e Vieira (2014), esta perícia é, portanto, legalmente atribuída a um psiquiatra, que deve pronunciar-se se, “em razão de anomalia psíquica”, existe prejuízo da capacidade de avaliação e de determinação quando e para os factos (concretos) em apreciação. Ou seja, é necessário apurar se existe, no perfil médico do indivíduo analisado, uma patologia psiquiátrica que destitua de sentido as conexões entre o agente e o facto, condicionando, deste modo, a sua inimputabilidade (Dias, 2007).

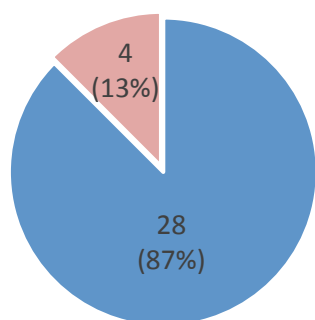
Assim, este trabalho propõe-se a avaliar e caracterizar a população de inimputáveis e imputáveis da ULS da Guarda, E.P.E. num período de 5 anos, bem como, realizar a análise crítica da qualidade dos relatórios de exame às faculdades

mentais e desta forma, contribuir positivamente para a contextualização e realização das futuras perícias às faculdades mentais dos indivíduos envolvidos em processos judiciais.

### Participantes

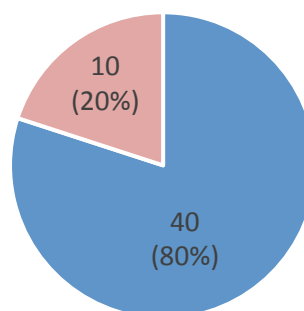
Foram revistos os dados dos relatórios de exame às faculdades mentais de 32 indivíduos inimputáveis e de 50 indivíduos imputáveis, periciados no Departamento de Psiquiatria e Saúde Mental da Unidade Local de Saúde da Guarda, E.P.E. entre 1 de setembro de 2010 e 1 de setembro de 2015.

Em relação ao género, identificou-se, na população inimputável, uma maioria de indivíduos do sexo masculino (Gráfico 1), bem como no caso da população imputável (Gráfico 2).



■ Masculino ■ Feminino

Gráfico 2. Género dos Inimputáveis



■ Masculino ■ Feminino

Gráfico 1. Género dos Imputáveis

Em relação à idade, verificou-se que o grupo etário mais representado, em ambas as amostras, foi aquele que compreende a faixa entre os 31 e os 40 anos de idade, enquanto os grupos menos representados foram os extremos etários (Gráfico 3). No que diz respeito aos inimputáveis, a média de idades situa-se nos 43,9 anos, com um desvio padrão de 16,8 anos. Já em relação aos imputáveis, a média situava-se nos 41,4 anos, com um desvio padrão de 14,9 anos. Em relação a este parâmetro, um relatório era omissivo em relação à idade de um inimputável.

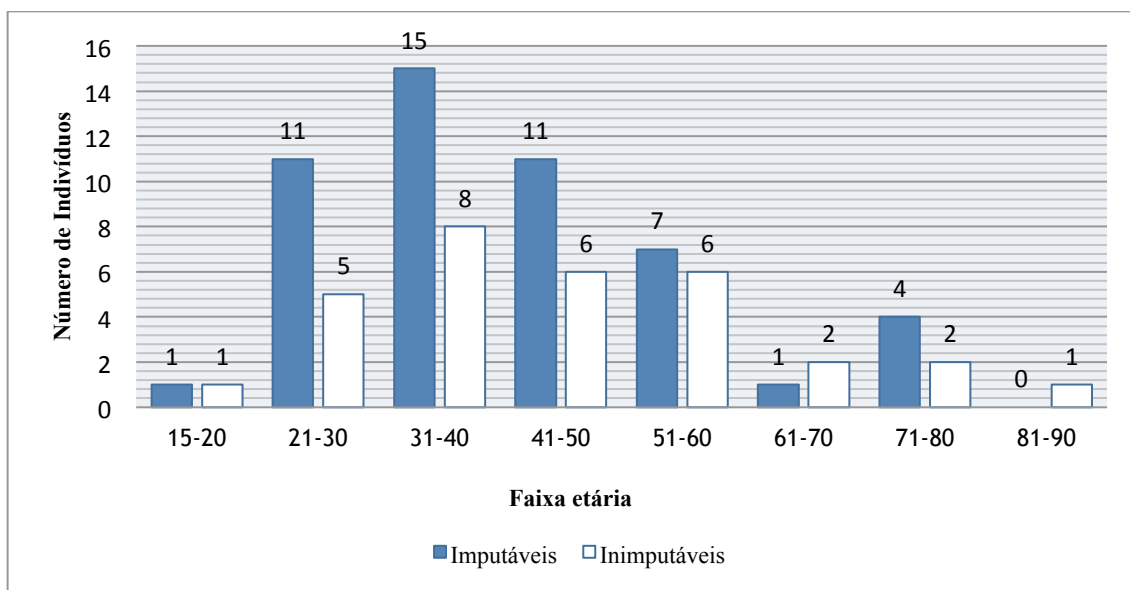


Gráfico 3. Grupos Etários

No que concerne ao estado civil, constatou-se que o grupo mais significativo, em ambas as amostras, foi o grupo dos solteiros, com 68% nos inimputáveis e 58% nos imputáveis, sendo o menos representativo o grupo dos viúvos, com 0% e 4%, respetivamente (Gráfico 4).

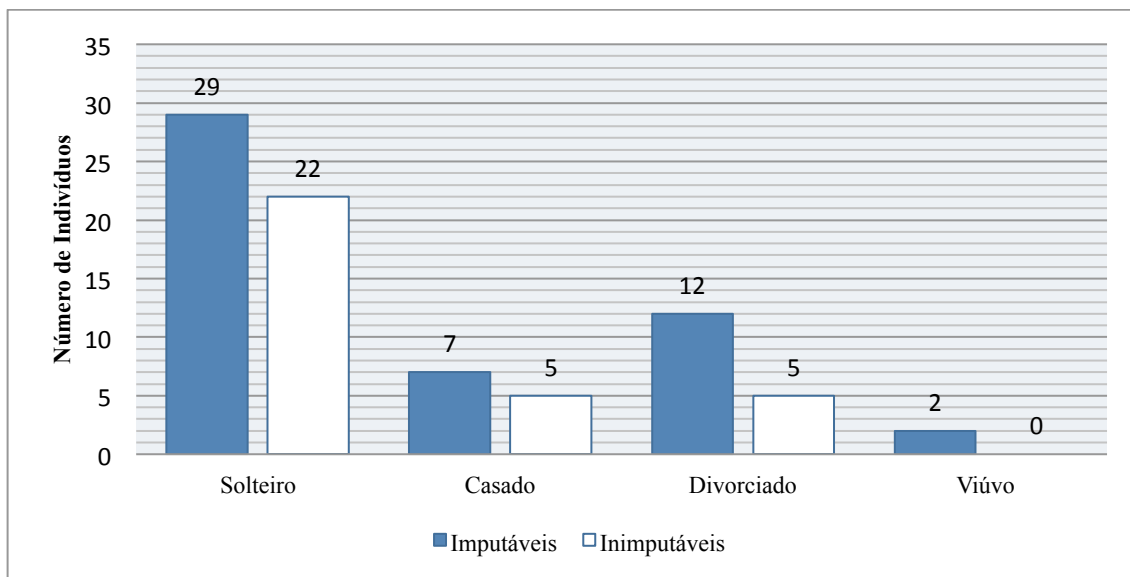


Gráfico 4. Estado Civil

Em relação à escolaridade, verificou-se que a maior porção de indivíduos inimputáveis eram analfabetos (44%), enquanto a maior porção de indivíduos imputáveis apresenta o 4º ano (26%), consoante se pode constatar no gráfico 5 ( $p = 0,014$ ), sendo a diferença estatisticamente significativa. De referir que nenhum indivíduo inimputável possuía uma formação superior ao 9º ano ou essa informação era desconhecida. Em 5 imputáveis e em 6 inimputáveis, a informação relativa à escolaridade era desconhecida.

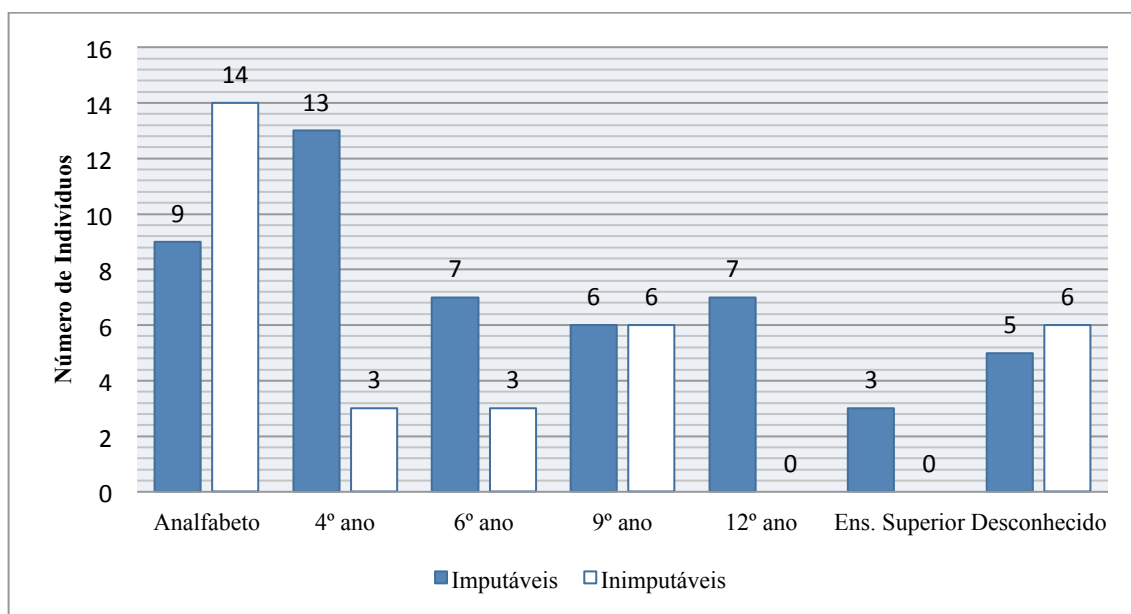


Gráfico 5. Escolaridade

No que diz respeito à atividade profissional, a maioria dos inimputáveis (81%) e dos imputáveis (58%) eram inativos, sendo que, neste parâmetro, a diferença entre as populações é estatisticamente significativa ( $p = 0,014$ ) (Gráficos 6 e 7). Em 4 relatórios de inimputáveis e em 4 relatórios de imputáveis esta informação era omissa.

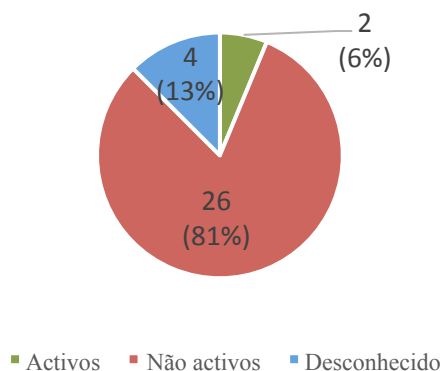


Gráfico 6. Atividade Profissional dos Inimputáveis

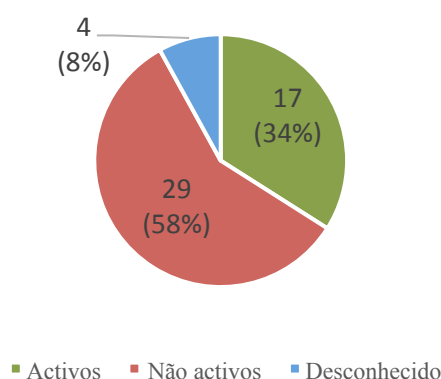


Gráfico 7. Atividade Profissional dos Imputáveis

## Instrumentos

Foram incluídos no estudo os dados dos relatórios de exame às faculdades mentais de 32 indivíduos inimputáveis e de 50 indivíduos imputáveis, periciados no Departamento de Psiquiatria e Saúde Mental da Unidade Local de Saúde da Guarda, E.P.E. entre 1 de setembro de 2010 e 1 de setembro de 2015.

## Procedimentos

Estudo de carácter retrospectivo, baseado no levantamento estatístico e análise dos dados de relatórios de exame às faculdades mentais. Foram recolhidos, através da consulta dos referidos relatórios, os dados sociodemográficos (idade, sexo, nacionalidade, estado civil, escolaridade e atividade profissional) os dados da história pessoal (acusação, antecedentes pessoais de doença psiquiátrica e internamento anterior

em Serviço de Psiquiatria), os dados do exame mental - exclusivamente em inimputáveis – (hábitos de higiene, transtornos da percepção, transtornos do pensamento, alterações sensoriais, ideação suicida, nível de *insight*) e, finalmente, as formulações diagnósticas – principal e associada – e a decisão final.

De referir que, no capítulo do Exame Mental, apenas a população inimputável foi avaliada, uma vez que, na grande maioria dos casos, os registos do exame mental dos imputáveis não apresentavam alterações assinaláveis - daí a sua classificação como imputáveis. O modelo de exame mental utilizado para construir o esquema de recolha de dados baseou-se no modelo de Kaplan e Sadock (1998).

## Resultados

### História pessoal

Em termos de história pessoal, são primeiramente apresentados os resultados obtidos relativamente às acusações judiciais apuradas aos indivíduos em análise. A classificação foi realizada com recurso à consulta da versão mais recente do Código Penal Português (2013). No caso da população inimputável, obtiveram-se os dados apresentados na tabela 1. O número de relatórios onde esta informação era omissa foi de 20.

<i>Tabela 1. Crimes dos inimputáveis</i>		
Título	Capítulo	Nº de Casos
<b>Dos crimes contra as pessoas</b> (total: 5 casos [16%])	Dos crimes contra a liberdade pessoal	1
	Dos crimes contra a integridade física	3
	Dos crimes contra a honra	1
<b>Dos crimes contra o património</b> (total: 2 casos [6%])	Dos crimes contra a propriedade	2
<b>Dos crimes contra a vida em sociedade</b>	Dos crimes contra a ordem e a tranquilidade públicas	1

(total: 5 casos [16%])	Dos crimes contra a segurança das comunicações	4
<b>Desconhecido [62%]</b>		20

Total: 32

No que diz respeito à população imputável, apuraram-se os dados obtidos na tabela 2. O número de relatórios onde esta informação era omissa foi de 24.

*Tabela 2. Crimes dos Imputáveis*

Título	Capítulo	Nº de Casos
<b>Dos crimes contra as pessoas</b>  (total: 17 casos [34%])	Dos crimes contra a liberdade pessoal	2
	Dos crimes contra a vida	3
	Dos crimes contra a reserva da vida	4
	Dos crimes contra a liberdade e autodeterminação sexual	3
	Dos crimes contra a integridade física	5
<b>Dos crimes contra o património</b> (total: 3 casos [6%])	Dos crimes contra o património em geral	1
	Dos crimes contra a propriedade	2
<b>Dos crimes contra a vida em sociedade</b> (total: 6 casos [12%])	Dos crimes de perigo comum	2
	Dos crimes contra a segurança das comunicações	4
<b>Desconhecido [48%]</b>		24

Total: 50

Posteriormente, aferiu-se a existência de história de doença psiquiátrica nos indivíduos em estudo (Gráficos 8 e 9). Verificou-se que em ambos os grupos a maioria das pessoas tinham antecedentes pessoais de doença mental diagnosticada, sendo a diferença estatisticamente significativa ( $p = 0,026$ ). De referir que esta informação estava contemplada em todos os relatórios.

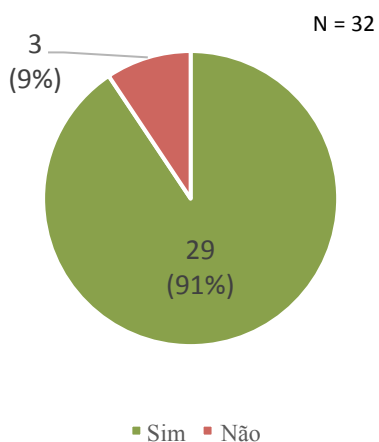


Gráfico 8. Inimputáveis com antecedentes pessoais de doença psiquiátrica

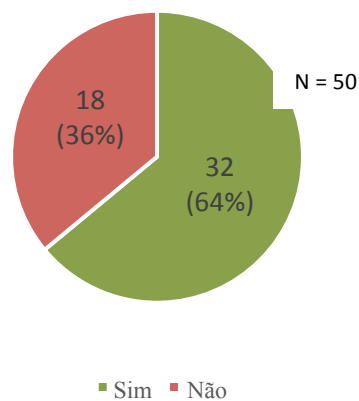


Gráfico 9. Imputáveis com antecedentes pessoais de doença psiquiátrica

Por outro lado, avaliou-se ainda a história de internamento anterior em serviço de Psiquiatria, verificando-se a existência de história positiva de internamento em 14 inimputáveis e em 21 imputáveis. (Gráficos 10 e 11). De referir, também, que esta informação estava contemplada em todos os relatórios.

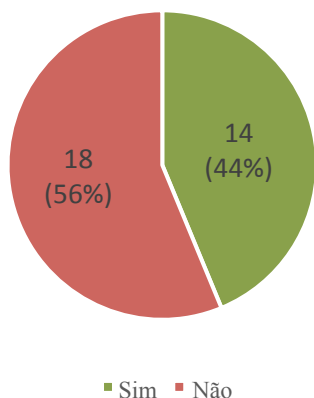


Gráfico 10. Inimputáveis com história de internamento em Psiquiatria

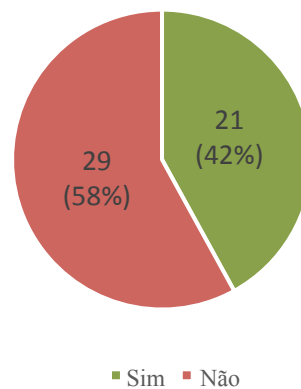


Gráfico 11. Imputáveis com história de internamento em Psiquiatria

### Exame mental

Em relação ao exame mental, estudou-se somente a população inimputável. Os dados recolhidos podem resumir-se na seguinte tabela 3, que apresenta o número absoluto de indivíduos, consoante a sua classificação, em cada categoria avaliada. A

negrito e com asterisco encontram-se os valores de anormalidade que, na respetiva categoria, são superiores ao valores de normalidade.

<i>Tabela 3. Resumo do Exame Mental</i>			
	Normal	Anormal	Desconhecido
<b>Hábitos de higiene</b>	19	2	11
<b>Transtornos da perceção</b>	25	4	3
<b>Curso do pensamento</b>	19	6	7
<b>Capacidade de abstração</b>	6	<b>21*</b>	5
<b>Raciocínio lógico dedutivo</b>	6	<b>20*</b>	6
<b>Planeamento de tarefas</b>	6	<b>19*</b>	7
<b>Posse do pensamento</b>	25	1	6
<b>Conteúdo do pensamento</b>	18	8	6
<b>Lucidez</b>	22	9	1
<b>Orientação auto e alopsíquica</b>	19	9	4
<b>Ideação suicida</b>	8	3	21
<b>Nível de <i>insight</i></b>	0	<b>8*</b>	24

Nota: A negrito e com asterisco encontram-se os valores de anormalidade que, na respetiva categoria, são superiores aos valores de normalidade.

### Formulações diagnósticas e decisão final

No que diz respeito às formulações diagnósticas, na tabela 4 são apresentados os resultados obtidos em relação aos diagnósticos psiquiátricos dos inimputáveis, de acordo com o *International Statistical Classification of Diseases and Related Health Problems – 10* (ICD-10). Constatou-se que 14 indivíduos tinham um diagnóstico de Deficiência mental (F70-F79), enquanto a classe diagnóstica com menos casos era aquela relacionada com as Perturbações do humor (F30-F39), com 4 casos.

*Tabela 4. Diagnósticos dos Inimputáveis*

Diagnóstico (ICD-10) dos Inimputáveis

Nº de Casos

<b>(F00-F09) Perturbações mentais orgânicas</b> (total: 6 casos [19%])	Processo demencial	3
	Síndrome pós-concussional	3
<b>(F20-F29) Perturbações esquizofrénicas, esquizotípicas e psicóticas</b> (total: 8 casos [25%])	Psicose esquizoafetiva	1
	Outras perturbações psicóticas	7
<b>(F30-F39) Perturbações do humor</b> (total: 4 casos [12%])	Doença bipolar	2
	Depressão <i>major</i>	2
<b>(F70-F79) Deficiência mental</b> (total: 14 casos [44%])		14

Total: 32

Em relação aos doentes imputáveis, constatou-se que o maior grupo (24 casos) não tinha qualquer diagnóstico de doença psiquiátrica, como se pode observar na tabela 5. Dentro do grupo daqueles que tinham algum diagnóstico psiquiátrico, a classe da Deficiência mental (F70-F79) apresentava-se como a mais representada, com 10 casos, seguida da classe das Perturbações do humor (F30-F39), com 9 casos no total.

Tabela 5. Diagnósticos dos Imputáveis		
Diagnóstico (ICD-10) dos Imputáveis		Nº de Casos
<b>(F00-F09) Perturbações mentais orgânicas</b> (total: 1 caso [2%])	Transtorno cognitivo leve	1
<b>(F10-19) Perturbações mentais e comportamentais devidas ao abuso de substâncias psicoativas</b> (total: 1 caso [2%])	Alcoolismo crónico	1
<b>(F20-F29) Perturbações esquizofrénicas, esquizotípicas e psicóticas</b> (total: 2 casos [4%])	Psicose esquizofrénica	2
<b>(F30-F39) Perturbações do humor</b> (total: 9 casos [18%])	Doença bipolar	6
	Depressão <i>major</i>	2
	Distímia	1

<b>(F40-49) Perturbações neuróticas, perturbações relacionadas com o stress e perturbações somatoformes</b> (total: 2 casos [4%])	Estado de ansiedade	2
<b>(F60-F69) Perturbações da personalidade e do comportamento do adulto</b> (total: 1 caso [2%])	Perturbação do controlo dos impulsos	1
<b>(F70-F79) Deficiência mental</b> (total: 10 casos [20%])		10
<b>Sem diagnóstico</b> (total: 24 casos [48%])		24

Total: 50

Posteriormente, verificou-se que 20 imputáveis e 14 inimputáveis tinham algum tipo de diagnóstico associado, informação que será discriminada adiante (Gráfico 12).  
Realçar o facto de que todos os relatórios continham esta informação.

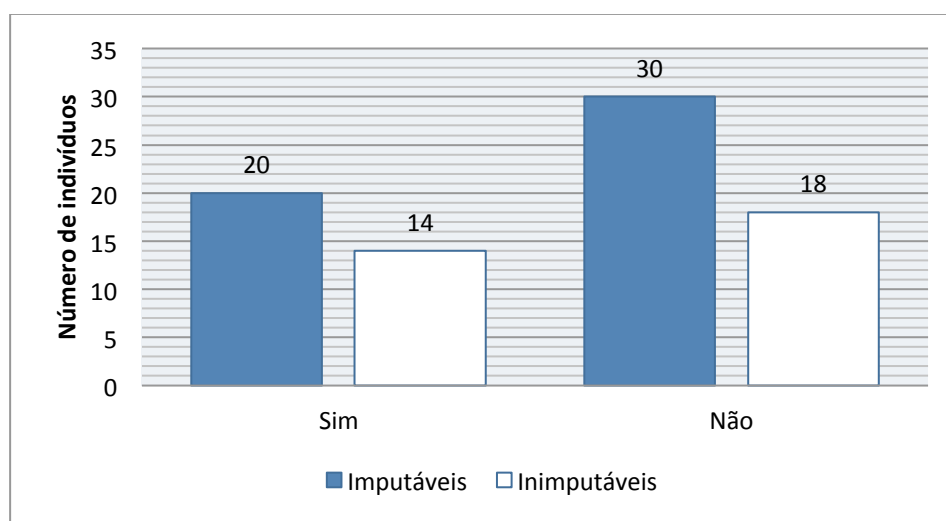


Gráfico 12. Diagnóstico associado

Em relação à decisão final, são apresentados na tabela 6 os resultados relativos aos inimputáveis e aos imputáveis. Constatou-se que o maior grupo de inimputáveis, com 30 casos, foi caracterizado como não apresentando perigosidade e o maior grupo de imputáveis, com 28 casos, foi referenciado com a recomendação de atenuação da pena.

*Tabela 6. Decisão final*

Decisão final		Nº de Casos	
	N	n	n/N x 100%
<b>Inimputáveis</b>	32	Sem perigosidade	30 94%
		Com perigosidade	2 6%
<b>Imputáveis</b>	50	Sem atenuantes	22 44%
		Com atenuantes	28 56%

Total: 82

### Discussão/Conclusão

Em Portugal, os estudos neste âmbito são escassos. Serão abordados, nesta discussão, dois estudos relativamente similares realizados no nosso país, nomeadamente um estudo publicado em 1999, de Vila Nova de Gaia (Basto, Ribeiro e Von Doellinger, 1999), e um estudo publicado em 1995, de Coimbra (Costa, Pereira e Saraiva, 1995). Embora estes estudos apresentem semelhanças com o presente trabalho, as suas amostras foram os conjuntos de perícias efetuadas em âmbito de Direito Penal nas unidades de saúde respetivas, o que significa que não realizaram, à partida, uma distinção entre as características dos inimputáveis e dos imputáveis.

Começando pelas características sociodemográficas, em relação ao género, as populações eram compostas maioritariamente por homens (83% no geral), não se verificando diferenças relevantes entre as populações imputável e inimputável. Estes dados estão de acordo com os resultados de estudos anteriores (Basto et al, 1999) (Costa et al, 1995), que apontam também para valores de 86% e 91%, respetivamente. Esta predominância do sexo masculino pode prender-se, por um lado, com a maior propensão para o crime na população masculina e, por outro, com um maior grau de

suspeição dos Tribunais em relação à existência de patologia psiquiátrica nestes indivíduos, quando comparados com a população feminina.

Analisando a idade, verificou-se uma média de idades de 43,9 anos nos inimputáveis e 41,4 anos nos imputáveis, enquanto nos estudos anteriores as médias de idades se situaram nos 33,5 anos (Basto et al, 1999) e 37 anos (Costa et al, 1995). Será legítimo admitir que os arguidos mais velhos possam levantar mais dúvidas em relação à ilicitude das suas ações, eventualmente em virtude, entre outros, de suspeitada doença psiquiátrica degenerativa.

Em termos de estado civil, a grande proporção de pessoas solteiras é semelhante àquelas verificadas nos estudos supracitados. Embora este facto fosse expectável em relação à população inimputável, em virtude da sua doença psiquiátrica, é interessante verificar que apenas 14% dos imputáveis eram casados, sendo 24% divorciados. Poder-se-á deduzir que o seu alegado comportamento perturbador das leis públicas, pelo qual estão a ser julgados, se reflete na estabilidade da vida conjugal, condicionando a predominância dos indivíduos solteiros.

Analisando agora a escolaridade, verificou-se uma diferença estatisticamente significativa entre os inimputáveis e os imputáveis. De facto, quase metade (44%) dos inimputáveis eram analfabetos, enquanto o máximo de escolaridade atingida apurado nesta população foi o 9º ano. Embora a caracterização dos diagnósticos de patologia psiquiátrica seja realizada mais à frente, daqui se deduz, desde já, que a história de doença mental terá um papel primordial na aquisição de aptidões e competências desde a infância, neste grupo populacional.

A atividade profissional, por sua vez, também apresentou diferenças estatisticamente significativas entre os dois grupos. Apesar de, em ambos os grupos, a maior fatia consistir nos indivíduos não ativos, tal como no estudo de Vila Nova de

Gaia (60%) (Basto et al, 1999), a população inimputável apresentava uma taxa de indivíduos ativos de apenas 6%, significativamente baixa, mesmo comparando com a população imputável. Estes dados, em conjugação com a estatística da escolaridade acima discutida, evidenciam a dificuldade dos inimputáveis em construir uma carreira profissional sólida e sustentada, provavelmente em virtude da sua condição mental.

Passando ao capítulo da história pessoal e familiar, no respeitante às acusações judiciais, a diferença encontrada entre os inimputáveis e os imputáveis não foi estatisticamente significativa. Observou-se que os delitos dos inimputáveis se distribuíam igualmente entre os crimes contra as pessoas e os crimes contra a vida em sociedade, com 16%, o que significa que na população em análise não houve um padrão criminal claramente distinto que caracterizasse o seu comportamento. Destaque para a proporção de casos relativos aos crimes contra a segurança das comunicações, que estão associados aos delitos de natureza rodoviária. De referir que, nos estudos de Coimbra (Costa et al, 1995) e de Vila Nova de Gaia (Basto et al, 1999), o tipo de crime mais frequentemente apurado foi o furto (que aqui integraria o capítulo dos crimes contra a propriedade, subsecção dos crimes contra o património). Os crimes contra o património não foram, de facto, os crimes mais frequentes no presente estudo, e esta diferença pode ter diversas justificações. Pode especular-se que este tipo de crime possa não despertar a dúvida no Tribunal, com tanta frequência, em relação à sanidade do arguido, ou seja, estes casos poderão ter reduzida probabilidade de estar associados ao requerimento de perícia psiquiátrica. Esta diferença pode ser, também, aleatória, considerando o pequeno tamanho da amostra e os consideráveis intervalos de erro. A população imputável, por sua vez, apresentou uma elevada proporção de crimes contra as pessoas, de 34%, de onde se destacam, em termos numéricos, os crimes contra a integridade física. Em relação ao parâmetro das acusações judiciais, importa frisar que a elevada percentagem

de casos desconhecidos (62% nos inimputáveis e 48% nos imputáveis) se explica pelo facto de que a informação judicial relativa a cada arguido não é obrigatoriamente incluída no relatório da perícia forense, uma vez que o processo criminal é devolvido ao Tribunal, que é o detentor desta informação. Fica, portanto, ao critério do médico psiquiatra que executa a perícia determinar se esta informação deve, ou não, constar no relatório.

Em relação aos antecedentes pessoais de doença psiquiátrica, verificou-se que a população inimputável tem, de facto, uma probabilidade maior de apresentar antecedentes de doença mental (neste estudo foi de 91%), o que nos alerta para a cronicidade da patologia em questão. Merece ainda referência o facto de que 64% dos imputáveis apresentaram também antecedentes de doença mental, o que estará, presumivelmente, intimamente relacionado com a elevada taxa de imputabilidade atenuada que se discutirá mais à frente.

A história de internamentos anteriores em serviços de Psiquiatria foi, de facto, semelhante entre as duas amostras. Se, por um lado, se verificou que os inimputáveis apresentavam uma prevalência quase total de antecedentes de doença mental, esse facto não se refletiu num valor proporcionalmente aumentado de internamentos em serviço de Saúde Mental. Poderá admitir-se que este resultado se deverá às características da patologia psiquiátrica desta população, que não justifica internamento. Podemos, ainda, interpretar estes valores a partir da perspectiva oposta, ou seja, verificar que quase metade da população imputável (42%) já tinha história de internamento em serviço de Psiquiatria. Percebe-se assim que muitos destes arguidos têm uma associação anterior aos serviços de saúde mental, o que constitui uma característica de relevo para a abordagem do profissional que executa as perícias.

Em relação ao capítulo do Exame Mental, importa destacar que, na maioria de categorias avaliadas (8 em 13), o número de casos de “normalidade” era superior, o que demonstra que, aquando da perícia mental, poucos são os arguidos que se encontram numa fase ativa da sua doença psiquiátrica ou, pelo menos, os seus sintomas estão controlados. Neste contexto, pode concluir-se, a partir dos resultados apurados, que a categoria mais determinante para a atribuição da classificação de inimputabilidade é a forma do pensamento, dado que são as suas variáveis (capacidade de abstração, raciocínio lógico e dedutivo e planeamento de tarefas) que estão mais frequentemente alteradas. Verifica-se que, quando qualquer uma destas variáveis da forma do pensamento está alterada, é muito provável que as outras duas também o estejam, apesar de serem, em teoria, avaliadas individualmente. Em relação aos outros parâmetros do exame mental, referência para a reduzida proporção dos transtornos da percepção, com quatro casos, e das alterações da posse do pensamento, com um único caso. O parâmetro da orientação auto e alopsíquica apresentava um maior número de casos alterados, o que se relaciona com os diagnósticos de doença mental que foram atribuídos e que serão discutidos adiante. Por sua vez, a ideação suicida, a par do nível de *insight*, foram os parâmetros com maior número de casos desconhecidos, o que significa que são raramente pesquisados. Não se apurou, de facto, nenhum caso em que o inimputável tivesse crítica, registada, sobre a sua doença mental. Será razoável admitir que estes dados possam, por um lado, não ser do interesse do médico especialista, no que concerne à atribuição da recomendação de inimputabilidade e, por outro, que a doença mental dos inimputáveis seja de tal forma peculiar que estas questões não fazem sentido em contexto de exame mental.

Finalmente, no capítulo das formulações diagnósticas e decisão final, verificou-se que quase metade dos inimputáveis (44%) sofria de deficiência mental (oligofrenia),

em diversos graus. Por comparação, na população imputável, apenas 20% dos examinados apresentavam este distúrbio, o que demonstra que um alegado criminoso, sendo oligofrénico, terá - segundo estes dados – maior probabilidade de ser considerado inimputável do que imputável. Como seria expectável, uma grande proporção dos imputáveis (48%) não apresentava qualquer diagnóstico psiquiátrico, ainda que os oligofrénicos e aqueles que sofrem de perturbações do humor representassem uma grande proporção. Nos estudos anteriores, os diagnósticos mais frequentemente apurados foram os de oligofrenia (45%) (Basto et al, 1999) e esquizofrenia (22%) (Costa et al, 1995), embora estes dados, como foi dito acima, sejam referentes às populações imputáveis e inimputáveis em conjunto. De facto, no estudo de Coimbra, a distribuição das classificações psicopatológicas era mais equilibrada, enquanto os dados do estudo de V.N. de Gaia são sobreponíveis aos dados dos inimputáveis do presente estudo, uma vez que a segunda categoria mais prevalente era também aquela relacionada com a esquizofrenia e outras psicoses (26%).

Em termos de diagnósticos associados, verificou-se que estes estavam presentes em cerca de 40% dos casos, nas duas populações, com especial destaque para o alcoolismo, tal como nos estudos consultados (Basto et al, 1999) (Costa et al, 1995). Estes dados demonstram que o alcoolismo constitui, efetivamente, um fator de muita relevância quando interpretado no contexto da psicopatologia e do crime, na medida em que constitui um catalisador de comportamentos de risco.

Por fim, verificou-se que a grande maioria (94%) dos inimputáveis não foram classificados como apresentando perigosidade, o que não constitui uma diferença assinalável em relação ao estudo de Coimbra (87%) (Costa et al, 1995), embora divirja grandemente do estudo de V.N. de Gaia (Basto et al, 1999), onde 47% dos inimputáveis eram considerados perigosos.

Uma vez que, em termos de formulações diagnósticas, o estudo de V.N. de Gaia apurou dados semelhantes ao presente estudo, a discrepância, estará, eventualmente, na natureza dos crimes (que, recorde-se, se associavam com maior frequência aos danos contra o património, naquela cidade) e na sua violência. No que diz respeito aos imputáveis, em 56% dos casos foi recomendada atenuação, enquanto em estudos anteriores as percentagens foram relativamente similares [60% (Costa et al, 1995) e 73% (Basto et al, 1999)]. Estes valores são, provavelmente, a tradução direta da maioria de imputáveis a quem foi atribuído um diagnóstico psiquiátrico (52%), embora a gravidade da sua doença não justifique, em termos claros e objetivos, a recomendação de inimputabilidade ao Tribunal.

Este estudo teve várias limitações. A primeira e mais significativa corresponde ao tamanho da amostra, uma vez que, embora a recolha de dados abrangesse um período de 5 anos, o facto de serem estudados apenas 32 inimputáveis (e 50 imputáveis) constitui uma condicionante na interpretação dos resultados. Uma amostra maior seria, eventualmente, mais apropriada, tendo em conta, contudo, o contexto sociodemográfico da população abrangida pela ULS da Guarda, E.P.E.. Por outro lado, dado que não existe um modelo predefinido que regule a estrutura da perícia forense, os relatórios consultados apresentavam múltiplas diferenças – consoante o critério do especialista que executava a perícia - pelo que se tentou construir um modelo de recolha de dados que permitisse a homogeneização dos resultados. Logicamente, este modelo não é perfeito, embora se tenha procurado abranger os parâmetros mais importantes, sobretudo no que diz respeito ao exame mental. Há que referir, ainda, o viés que o estudo tem à partida, e que se prende com o facto de serem estudados apenas indivíduos cuja perícia foi requerida pelo Tribunal. Isto significa que existiu, antes de tudo, um critério por parte daquela instituição em relação aos indivíduos que deveriam ser

periciados e, conseqüentemente, incluídos neste estudo, critério esse que é determinado pelo juiz responsável.

Pode concluir-se, então, que o perfil do doente inimputável da ULS da Guarda, E.P.E. consiste num indivíduo português, do sexo masculino, de 44 anos de idade, solteiro, analfabeto e reformado. Comete um crime contra as pessoas ou um crime contra a vida em sociedade, tem antecedentes pessoais de doença psiquiátrica e não foi internado anteriormente em serviço de saúde mental. No exame mental a única alteração é ao nível da forma do pensamento. É diagnosticado como sendo portador de deficiência mental, sem diagnóstico associado, e não apresenta perigosidade.

Recomenda-se, com base na investigação realizada, a criação de um modelo de perícia forense que determine a estrutura da entrevista e promova a obtenção de resultados que, sob a perspetiva da sua disposição, sejam relativamente idênticos. Do ponto de vista do profissional, este modelo funcionaria como uma ferramenta de apoio à realização das perícias, promovendo o cruzamento de dados e o estudo da população abrangida. O seu propósito seria, em última análise, a prevenção das situações de risco, na medida em que uma porção significativa destes indivíduos - que estão sob a alçada da justiça - tem acompanhamento anterior nos serviços de saúde mental e pode ter a sua ação criminal limitada mais precocemente, sendo conhecidas, *a priori*, as suas características.

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The NGRI (Not Guilty for Reason of Insanity) patient profile of the Local Health Unit  
of Guarda, Portugal

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### Abstract

Forensic Psychiatry, as a specific branch of Psychiatry, is the medical science that approaches mental illness and its relationship with law enforcement. The goal of this research project, which is retrospective in nature, was to delineate the profile of the Not Guilty for Reason of Insanity (NGRI) patient of the Local Health Unit (LHU) of Guarda, Portugal, in a time period of 5 years, and to establish a comparison with the corresponding characteristics of the imputable patients. In order to accomplish this goal, the reports on mental faculties' evaluations of these individuals were assessed. It was concluded, therefore, that the profile of the NGRI patient of the LHU of Guarda consists of a 44-year-old Portuguese male, unmarried, illiterate and retired. He commits a crime against people or a crime against life in society, has a personal history of psychiatric illness and has not been previously hospitalized in any mental health institution. When it comes to the mental evaluation, the only variation concerns the form of thought. He is diagnosed with mental retardation, without an associated diagnosis, and presents no danger.

*Keywords:* psychiatry, justice, forensics, profile, insanity

The NGRI patient profile of the Local Health Unit of Guarda, Portugal

Forensic Psychiatry, as a specific branch of Psychiatry, corresponds to the interface between Psychiatry and the Law, as it places psychiatric knowledge at the service of Law-related subjects.

Criminal Law, a branch of the Public Law, has as its function the protection of fundamental goods and values of society and protection of the peoples' freedom (Pereira, 2005). The medical-legal expertise, requested for the purposes of Criminal Law, were the focus of this research work. The regulation of these acts of expertise is currently defined by articles 151<sup>st</sup> to 163<sup>rd</sup> of the VI chapter of the Portuguese Penal Code and Decree 325/86 of 9/9/1986. In practice, a psychiatric opinion in this domain is intended to clarify the judge regarding the responsibility of the accused, although it is not binding. According to Pereira (2005), imputability, a fundamental concept in the field of criminal law, refers to the state of a person, possessing a certain level of maturity, as well as a degree of mental sanity, to whom an act may be attributed guilt. In the Portuguese Penal Code, criminal imputability is reached at 16 years of age.

According to Graça and Vieira (2014), this psychiatric assessment is, therefore, legally attributed to a psychiatrist, who must decide whether, "by reason of a psychic anomaly", there is an impairment of the ability to evaluate and decide the (actual) facts under consideration. In other words, it is necessary to determine whether there is a psychiatric pathology in the medical profile of the examined individual that makes the connections between the person and the crime meaningless, thus rendering him / her Not Guilty for Reason of Insanity (NGRI) (Dias, 2007).

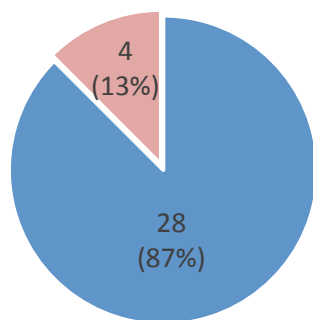
Thus, this manuscript has as its main purpose the evaluation and characterization of the populations of NGRI and imputable individuals of the Local Health Unit (LHU) of Guarda, Portugal, in a 5 year period. Additionally, a critical analysis of the quality of

the evaluation reports of the mental faculties is made. The goal is to contribute positively to the contextualization and elaboration of future psychiatric assessments of the mental faculties of the individuals involved in judicial trials.

### Participants

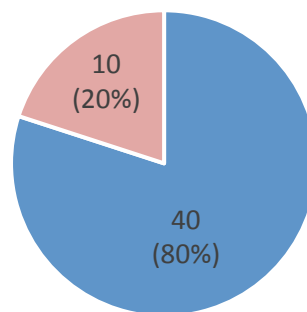
Data from the assessment reports of the mental faculties of 32 NGRI and 50 imputable individuals were included in this study. The individuals were examined in the Department of Psychiatry and Mental Health of the LHU of Guarda, between the 1<sup>st</sup> of September of 2010 and the 1<sup>st</sup> of September of 2015.

Regarding the sex, mostly male individuals were identified in the NGRI population (Figure 1), as well as in the case of the imputable population (Figure 2).



■ Masculino ■ Feminino

Figure 1. Sex of the NGRI individuals



■ Masculino ■ Feminino

Figure 2. Sex of the imputable individuals

Concerning the age, it was verified that the most represented age group, in both conditions, was the age range between 31 and 40 years (Figure 3). Regarding the NGRI persons, the mean age was 43.9 years, with a standard deviation of 16.8 years. When it comes to the imputable population, the average age was 41.4 years old, with a standard deviation of 14.9 years.

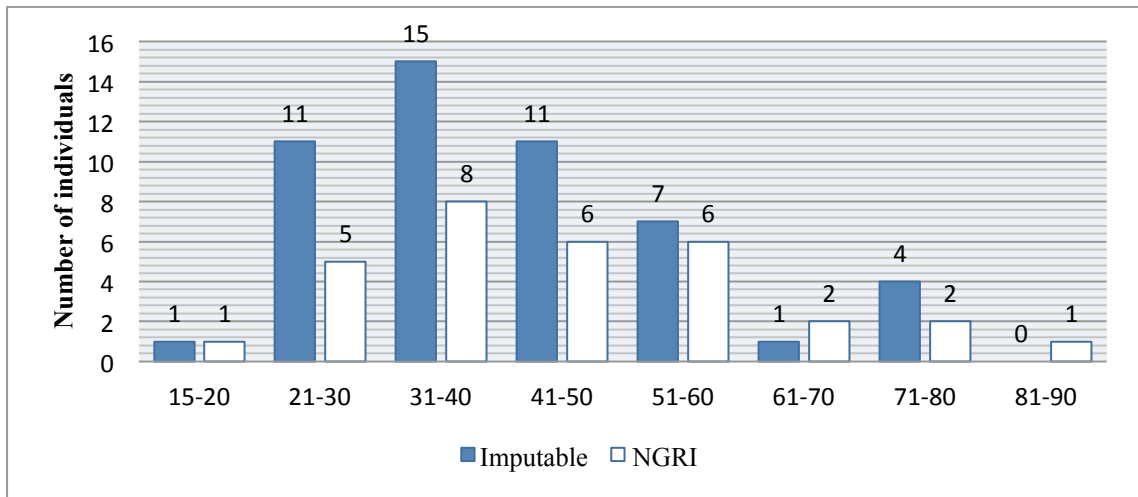


Figure 3. Statistical chart representing the age groups in both conditions.

The predominant marital status was single, 68% in the NGRI people and 58% in the imputable persons (Figure 4).

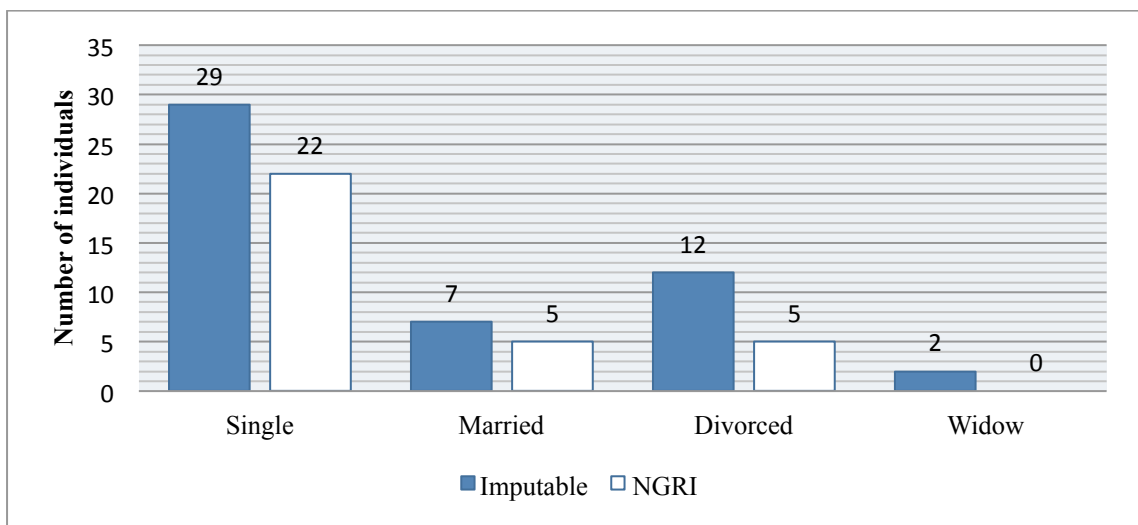


Figure 4. Statistical chart representing the marital status in both conditions.

When it comes to scholarship, it was verified that the largest number of NGRI individuals were illiterate (44%), while the largest portion of imputable individuals had completed the 4th grade (26%), as can be seen on Figure 5, with a statistically significant difference ( $p = 0.014$ ). It should be noted that no NGRI presented a

scholarly beyond the 9th grade. Moreover, information concerning education was unknown in 5 imputable and 6 NGRI individuals.

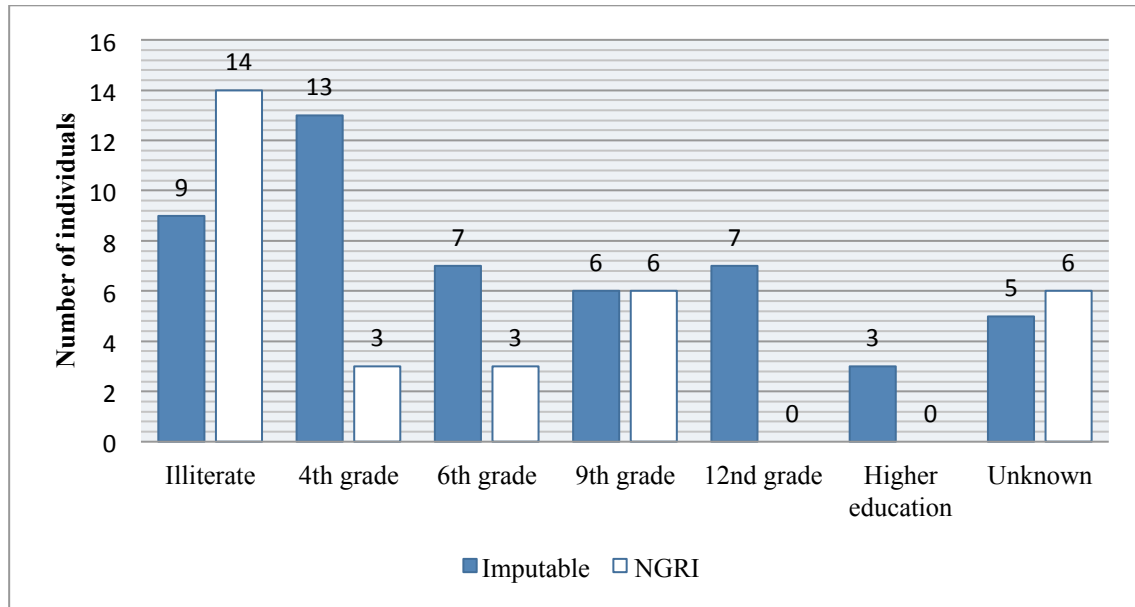


Figure 5. Statistical chart representing the level of education in both conditions.

In terms of professional activity, the majority of NGRI (81%) and imputable people (58%) were inactive, being the difference between the populations statistically significant ( $p = 0.014$ ) (Figures 6 and 7). This information was unknown in 4 imputable and 4 NGRI individuals.

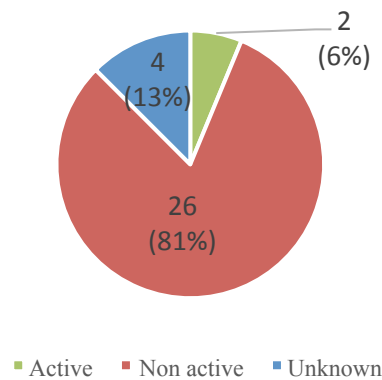


Figure 6. Professional activity of the NGRI persons

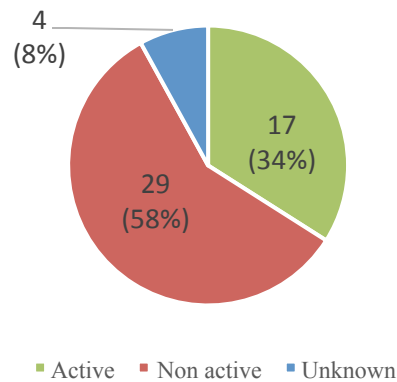


Figure 7. Professional activity of the imputable persons

### Apparatus and materials

Data from the evaluation reports of the mental faculties of 32 NGRI and 50 imputable individuals were included in the study. They were examined in the Department of Psychiatry and Mental Health of the LHU of Guarda between the 1<sup>st</sup> of September of 2010 and the 1<sup>st</sup> of September of 2015.

### Procedure

This is a retrospective study, based on data collected from psychiatric evaluation reports of the mental faculties of prosecuted individuals and respective statistical analysis. Sociodemographic data (age, sex, nationality, marital status, scholary, professional activity) was collected, as well as information regarding personal history (prosecution, personal history of psychiatric illness, previous hospitalization in a psychiatric ward), mental evaluation, exclusively in NGRI individuals (hygiene habits, perception disorders, thinking disorders, suicidal ideation, level of insight), and, finally, the diagnostic formulations (primary, as well as associated diagnosis) and the final opinion.

Concerning the chapter of the mental evaluation, only the NGRI population was evaluated, since, in the great majority of cases, the reports of the mental evaluation of

the imputable individuals did not show remarkable alterations, hence their classification as imputable. The formulation of the structure to collect the data concerning the mental evaluation was based on the model of Kaplan and Sadock (1998).

## Results

### Personal history

In terms of personal history, the data obtained regarding the judicial accusations of the individuals under analysis are shown below. The classification was made using the most recent version of the Portuguese Penal Code (2013). Concerning the NGRI population, data presented in table 1 was collected. In twenty cases of NGRI reports this information was not available.

<i>Table 1. Crimes of the NGRI</i>		
Title	Chapter	Nr. of cases
<b>Against people</b>  (total: 5 cases [16%])	Against personal liberty	1
	Against physical integrity	3
	Against honor	1
<b>Against property</b>  (total: 2 cases [6%])	Against property	2
<b>Against life in society</b>  (total: 5 cases [16%])	Against order and public tranquillity	1
	Against the safety of communications	4
<b>Unknown [62%]</b>		20

Total: 32

Regarding the imputable population, the data obtained is shown in table 2. In twenty-four cases, this information was not available.

*Table 2. Crimes of the imputable*

Title	Chapter	Nr. of cases
<b>Against people</b>  (total: 17 cases [34%])	Against personal freedom	2
	Attempted murder	3
	Against privacy	4
	Against sexual liberty and self determination	3
	Against physical integrity	5
<b>Against property</b>  (total: 3 cases [6%])	Against property in general	1
	Against property	2
<b>Against life in society</b>  (total: 6 cases [12%])	Of common danger	2
	Against the safety of communications	4
<b>Unknown [48%]</b>		24

Total: 50

Subsequently, the existence of a history of psychiatric illness in the individuals under study was evaluated (Figures 8 and 9). It was verified that in both groups most of the people had personal history of diagnosed mental illness, with a statistically significant difference between the two populations ( $p = 0,026$ ). It is important to note that all reports included this information.

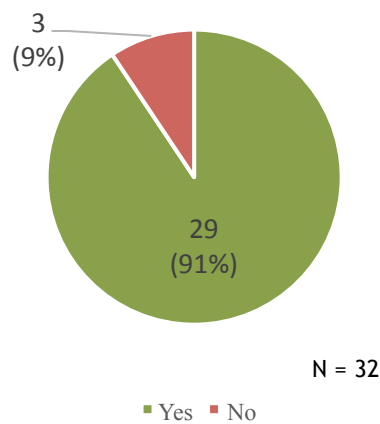


Figure 8. NGRI individuals with personal history of psychiatric disease

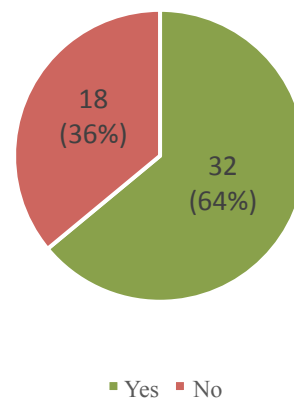


Figure 9. Imputable people with personal history of psychiatric disease

Moreover, the history of previous hospitalization in a Psychiatry ward was assessed, and, in fact, there was a positive history of hospitalization in 14 NGRI and 21 imputable individuals. (Figures 10 and 11). It should be noted that all reports included this information as well.

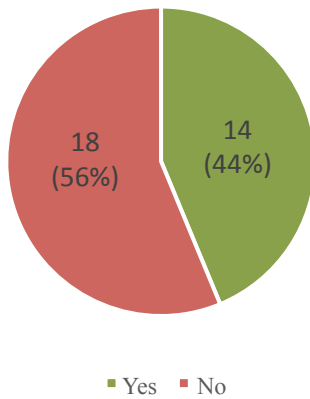


Figure 10. NGRI individuals with history of previous hospitalization in a Psychiatry ward

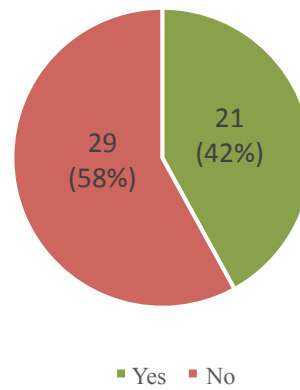


Figure 11. Imputable persons with history of previous hospitalization in a Psychiatry ward

**Mental evaluation**

Regarding the mental evaluation, only the NGRI population was studied. The data collected can be summarized in the following table, which presents the absolute number of individuals, according to their classification, in each of the assessed categories. In four of the twelve categories evaluated, there were more abnormal cases than normal cases found (in bold and with an asterisk).

Table 3. Data that summarizes the mental evaluation of NGRI

	Normal	Abnormal	Unknown
<b>Hygiene habits</b>	19	2	11
<b>Disorders of perception</b>	25	4	3
<b>Stream of thought</b>	19	6	7

<b>Capacity of abstraction</b>	6	<b>21*</b>	5
<b>Deductive logical reasoning</b>	6	<b>20*</b>	6
<b>Task planning</b>	6	<b>19*</b>	7
<b>Possession of thought</b>	25	1	6
<b>Content of thought</b>	18	8	6
<b>Lucidity</b>	22	9	1
<b>Self and allopsychic orientation</b>	19	9	4
<b>Suicidal ideation</b>	8	3	21
<b>Insight</b>	0	<b>8*</b>	24

### Diagnostic formulations and final decision

In terms of diagnostic formulations, the results obtained regarding the NGRI population are presented in table 4, according to the rules of the *International Statistical Classification of Diseases and Related Health Problems - 10* (ICD-10). It was found that 14 individuals had a diagnosis of Mental retardation (F70-F79), whereas the diagnostic class with the fewest cases was Mood [affective] disorders (F30-F39), with 4 cases.

Table 4. Data representing the diagnosis of the NGRI		
Diagnosis (ICD-10) of the NGRI		Nr. of cases
<b>(F00-F09) Organic, including symptomatic, mental disorders</b> (total: 6 cases [19%])	Dementia	3
	Postconcussional syndrome	3
<b>(F20-F29) Schizophrenia, schizotypal and delusional disorders</b>	Schizoaffective disorder	1

(total: 8 cases [25%])	Other psychotic disorders	7
<b>(F30-F39) Mood [affective] disorders</b> (total: 4 cases [12%])	Bipolar disorder	2
	Major depression	2
<b>(F70-F79) Mental retardation</b> (total: 14 cases [44%])		14

Total: 32

When it comes to the imputable population, it was found that the largest group (24 cases) had no diagnosis of psychiatric illness, as can be seen in table 5. Among the group of those with a psychiatric diagnosis, the Mental retardation class (F70-F79) was the most widely represented, with 10 cases, followed by the Mood [affective] disorders class (F30-F39), totalling 9 cases.

*Table 5. Data representing the diagnosis of the imputable*

Diagnosis (ICD-10) of the imputable	Nr. of cases	
<b>(F00-F09) Organic, including symptomatic, mental disorders</b> (total: 1 case [2%])	Mild cognitive disorder 1	
<b>(F10-19) Mental and behavioural disorders due to psychoactive substance use</b> (total: 1 case [2%])	Chronic alcoholism 1	
<b>(F20-F29) Schizophrenia, schizotypal and delusional disorders</b> (total: 2 cases [4%])	Schizophrenic psychosis 2	
<b>(F30-F39) Mood [affective] disorders</b> (total: 9 cases [18%])	Bipolar disorder	6
	Major depression	2
	Dysthymia	1
<b>(F40-49) Neurotic, stress-related and somatoform disorders</b> (total: 2 cases [4%])	Anxiety disorder 2	
<b>(F60-F69) Neurotic, stress-related and somatoform disorders</b> (total: 1 case [2%])	Impulse control disorder 1	

<b>(F70-F79) Mental retardation</b> (total: 10 cases [20%])	10
<b>Without psychiatric diagnosis</b> (total: 24 cases [48%])	24

Total: 50

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was also collected as to whether there were records of diagnoses associated with the primary psychiatric diagnosis, which will be discussed later. It was verified that 20 imputable and 14 NGRI individuals had some sort of associated diagnosis (Figure 12).

It should be noted that all reports included this information.

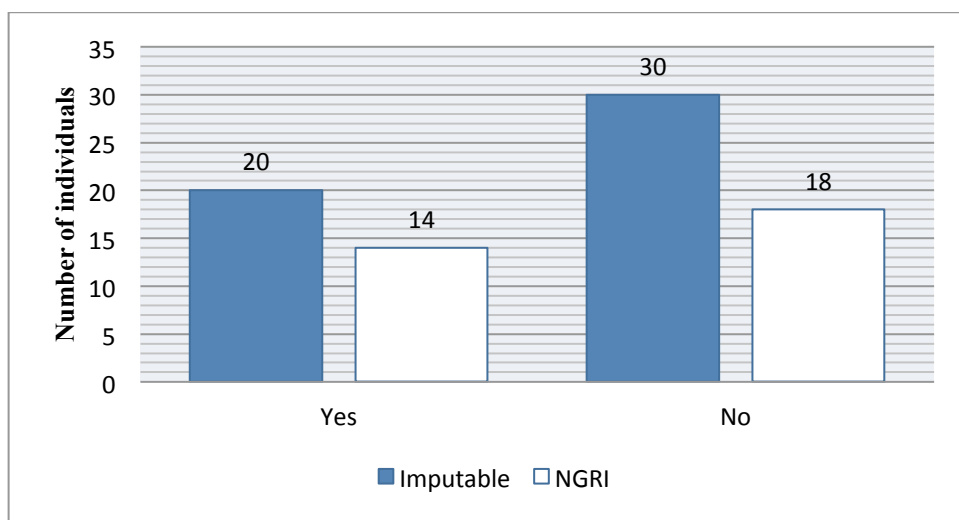


Figure 12. Statistical chart representing the presence of an associated diagnosis.

In terms of the final opinion, the results are presented in table 6. It was found that the largest group of NGRI individuals, thirty, were characterized as not presenting danger, and the largest group of imputable individuals, twenty-eight cases, had the recommendation of reduction of the sentence.

<i>Table 6. Final opinion</i>
Nr. of cases

	N		n	n/N x 100%
<b>NGRI</b>	32	Non dangerous	30	94%
		Dangerous	2	6%
<b>Imputable</b>	50	Without any recommendation	22	44%
		With the recommendation of reduction of the sentence	28	56%

Total: 82

### Discussion/Conclusions

In Portugal, studies in this area are scarce. Two relatively similar studies carried out in our country, namely a study published in 1999 in Vila Nova de Gaia (Basto, Ribeiro and Von Doellinger, 1999), and a study published in 1995, in Coimbra (Costa, Pereira and Saraiva, 1995), will be referenced later. Although these two studies have similarities with the present study, their samples were all the reports obtained from psychiatric evaluations carried out within the scope of Criminal Law in the respective health units, which means that they did not, at the outset, make a distinction between the characteristics of the NGRI and the imputable populations.

Starting with the sociodemographic characteristics, when it comes to the sex, the populations were composed mainly of males, that is, 87% in the NGRI population and 80% in the imputable population. This data is similar to the results of previous studies (Basto et al, 1999) (Costa et al, 1995), which also indicated values of 86% and 91%, respectively. This predominance of males may be related to, on one hand, the greater propensity of crime in the male population, or, on the other hand, a greater degree of suspicion of the courts when it comes to the alleged existence of psychiatric pathology in these individuals, when compared with the female population.

Analysing the age parameter, there was a mean age of 43.9 years in the NGRI individuals and 41.4 years in the imputable persons, while in the previous studies the mean age was 33.5 years (Basto et al, 1999) and 37 years (Costa et al, 1995). It is legitimate to admit that older defendants may raise more doubts about the alleged insanity which could relate to their actions, possibly due to, amongst others, suspected degenerative psychiatric illness.

In terms of marital status, the majority of individuals were unmarried, which is similar to that found in the above-mentioned studies. Although it would be reasonable to predict this scenario in the NGRI population, due to their psychiatric illness, it is interesting to note that only 14% of the imputable individuals were married, and 24% were divorced. It can be deduced that their alleged disruptive behaviour of the public laws, for which they are being prosecuted, is directly reflected in the stability of their relationships, being strongly associated with the predominance of single individuals.

Concerning scholary, there was a statistically significant difference between the NGRI and the imputable populations. In fact, almost half (44%) of the NGRI individuals were illiterate, and the maximum level of education reached in this population was the 9th grade. Although the characterization of the diagnoses of psychiatric pathology is carried out later, it can be deduced from this that the history of mental deficiency had a primary role in the acquisition of skills and competences from early childhood.

Professional activity, in turn, also presented statistically significant differences between the two groups. Although in both groups the largest share consists of non-active individuals, as in the Vila Nova de Gaia study (60%) (Basto et al, 1999), the NGRI population had a significantly lower rate of active individuals (only 6%) even when compared with the imputable population. This data, in conjunction with the

statistics of scholarship discussed above, reveal the prominent difficulties of the NGRI individuals, who are unable to build a solid and sustainable professional career, probably due to their mental condition.

Concerning the chapter of personal history, with regard to judicial charges, the difference found between the NGRI and the imputable persons was not statistically significant. It was observed that the crimes of the NGRI individuals were equally distributed between crimes against people and crimes against life in society (with 16%), which means that in the population under analysis there was no clear distinct criminal pattern that characterized their behaviour. The proportion of cases related to crimes against the security of communications, which are associated with crimes performed while driving, should be highlighted. It should also be noted that in the studies of Coimbra (Costa et al, 1995) and Vila Nova de Gaia (Basto et al, 1999), the most frequent type of crime was robbery (which would be included in the category of crimes against property). Crimes against property were not, in fact, the most frequent crimes in the present study. This difference may occur for several reasons. It may be speculated that this type of crime may not raise the Court's doubt as frequently (as other crimes) with respect to the defendant's sanity, that is, in these cases, it may be less likely to require a psychiatric assessment. This difference can also be random, considering the small sample size and the considerable error intervals. The imputable population, on the other hand, presented a high proportion of crimes against the people (34%), wherein the crimes against the physical integrity stand out numerically. Regarding the parameters of the judicial charges, it should be pointed out that the high percentage of unknown cases (62% in the NGRI and 48% in the imputable populations) can be explained by the fact that judicial information concerning each defendant is not necessarily included in the forensic report, given that the criminal records are returned to the Court, where they are

archived. It is, therefore, at the discretion of the practicing psychiatrist to determine whether this information should be included or not in the forensic report.

Concerning the personal history of psychiatric illness, it was verified that the NGRI population had, in fact, a greater probability of presenting a history of mental illness (91% were verified), which alerts us to the chronicity of the pathologies. It is also worth noting that 64% of the imputable individuals had a history of mental illness as well, which is presumably closely related to the high rate of recommendation for a reduced sentence that will be discussed later.

The history of previous hospitalizations in a psychiatric ward was, actually, similar between the two populations. Although it was found that the NGRI individuals had an almost total prevalence of a history of mental illness, this fact was not reflected in a proportionally increased total number of previous hospitalizations in mental health wards. It may be assumed that this result is due to the characteristics of the psychiatric pathologies of this population, which do not justify hospitalization. We can also interpret these results from the opposite perspective, that is, we may verify that almost half of the imputable population (42%) already had a history of hospitalization in a psychiatric ward. It is thus perceived that many of these defendants have a prior association with mental health institutions, which is an important factor in the psychiatric assessment.

Concerning the mental evaluation, it is important to note that in the majority of categories evaluated (8 out of 12), the number of cases of "normality" was higher, which shows that, during the psychiatric assessment, few defendants are in an active phase of their psychiatric illness, or at least their symptoms are controlled. In fact, it can be concluded, from the results found, that the most important category for the attribution of the classification of NGRI is the form of thought, since its variables

(capacity of abstraction, deductive logical reasoning and task planning) are more frequently altered. Following this logic, it becomes evident that when any of these variables of form of thought are altered, it is very likely that the other two are also abnormally changed, although, in theory, they are assessed individually. Concerning the other parameters of the mental evaluation, a reference must be made to the reduced proportion of perception disorders, only four cases, and changes in the possession of thought, with a single case. Additionally, suicidal ideation, along with the level of insight, were the parameters with the greatest number of unknown cases, which means that they are rarely evaluated. It would be reasonable to assume that this information may not be in the interest of the psychiatrist, in terms of attribution of an NGRI recommendation, or that the mental illness of the NGRI individuals is so peculiar that these questions don't make sense in the context of a psychiatric assessment.

Finally, in the chapter of diagnostic formulations and final decisions, it was verified that almost half of the NGRI individuals (44%) suffered from mental retardation (oligophrenia), to varying degrees. By comparison, in the imputable population, only 20% of those examined suffered from this disorder, which shows that an alleged criminal, being an oligophrenic, will, according to this data, be more likely to be considered NGRI. As might be expected, a large proportion of the imputable persons (48%) did not present any psychiatric diagnosis, although a vast share were oligophrenic and those suffering from mood disorders. In previous studies, the most frequently diagnosed pathologies were mental retardation (45%) (Basto et al, 1999) and schizophrenia (22%) (Costa et al, 1995), although these results, as mentioned above, refer to imputable and NGRI populations combined. In fact, in the Coimbra study, the distribution of psychopathological classifications was more balanced, whereas data from the V. N. de Gaia study were very similar to the data of the NGRI individuals of the

present study, given that the second most prevalent category was also that related to schizophrenia and other psychoses (26%).

In terms of associated diagnoses, they were found to be present in about 40% of the cases, in both populations, with special emphasis on alcoholism, as in the studies consulted (Basto et al, 1999) (Costa et al, 1995). This data demonstrates that this addiction is indeed a very important factor when interpreted in the context of psychopathology and crime, as far as it is a catalyst for risk behaviours.

Finally, it was verified that a great majority (94%) of the NGRI individuals were not classified as dangerous, which is not a significant difference when compared to the Coimbra study (87%) (Costa et al, 1995), although it differs greatly from the study of V. N. de Gaia (Basto et al, 1999), where 47% of the NGRI individuals were considered dangerous.

Since the study of V. N. de Gaia found similar data, in terms of diagnostic formulations, when compared to the present study, this can possibly be related to the nature and violence of the crimes (which, should be noted, was more often associated with damages against property in the previous study). Regarding the imputable population, a sentence reduction was recommended in 56% of cases, similar to the previous studies [60% (Costa et al, 1995) and 73% (Basto et al, 1999)]. These numbers are, probably, a direct consequence of the majority of imputable individuals who have a psychiatric diagnosis attributed (52%), although the severity of their illness does not justify, in clear and objective terms, the psychiatric recommendation of the NGRI classification to the Court.

This study had several limitations. The first and most significant one corresponds to the size of the sample since, although data collection covered a period of 5 years, only 32 NGRI (and 50 imputable) individuals were studied, which is a limiting

factor in the interpretation of these results. A larger sample would have been more appropriate, taking however into account the sociodemographic context of the population covered by the LHU of Guarda. On the other hand, since there is no predefined model regulating the structure of a forensic psychiatric evaluation, the reports presented multiple differences, changing according to the criteria of the expert who executed the evaluation, therefore the application of a protocol of data collection that allowed the standardization of the results was attempted. Inevitably, this model was not perfect, although the most important parameters were covered, especially regarding mental evaluation. Additionally, a bias exists in that only individuals with psychiatric assessments requested by the Court were evaluated. This means that there was an initial suspicion of psychiatric illness in the individual, and that this suspicion was determined by the judge.

We may conclude, then, that the profile of the NGRI patient of the LHU of Guarda consists of a 44-year-old Portuguese male, unmarried, illiterate and retired. He commits a crime against people or a crime against life in society, has a personal history of psychiatric illness and has not been previously hospitalized in any mental health institution. When it comes to mental evaluation, the only variation concerns the form of thought. He is diagnosed with mental retardation, without an associated diagnosis, and presents no danger.

It is recommended, based on the research that was carried out, the construction of a model of forensic psychiatric assessment that regulates the structure of the interview and promotes results that, from the perspective of disposition, are relatively identical. From the professional's point of view, this model would act as a tool to improve the performance of the psychiatric assessment, promoting the cross-referencing of data and the study of the covered population. Its purpose would ultimately be the

prevention of risk situations, as a significant proportion of these individuals, who are subject to judicial charges, have previous follow-up in mental health institutions and may have their criminal action limited sooner, since their characteristics would be previously know.

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How far does love go?

Experiences and perceptions of unwanted relational pursuit

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### Abstract

This study was aimed at understanding unwanted relational pursuit (URP) triggered by a love rejection. Its goal was to determine whether gender and specific behaviors influenced how targets reacted and how pursuers perceived the target's reactions. Data from 388 Portuguese college students showed that URP was a very common experience among these young adults, with an expressive overlap between targets and pursuers. Results suggested that males recounted more positive reactions to the pursuit than females. The presence of open threats and violent tactics strongly predicted reports of negative reactions, but also milder behaviors (courtship and approach behaviors) made targets and pursuers report negative reactions. Findings suggest that URP is a complex phenomenon with a gendered nature that may constitute the underlying context from which stalking emerges, even when more mundane behaviors are at stake.

*Keywords:* unwanted relational pursuit, stalking, gender, behaviors, perceptions

How far does love go? Experiences and perceptions of unwanted relational pursuit

Drawing from a sociocultural framework, this study focused on a broad experience of *unwanted relational pursuit* (URP) triggered by love rejection from which stalking may emerge. Both targets and pursuers' accounts were considered for searching how gender and URP behaviors influence how targets react to pursuit and how pursuers perceive the target's reactions to their actions. This is an exploratory study grounded in the Portuguese context, where stalking has only recently started to be approached in the social, scientific, and judicial debate.

### **Unwanted relational pursuit and stalking**

Stalking has revealed to mainly have a relational nature. It mostly builds up from ordinary efforts to persuade someone to initiate, maintain and reestablish a relationship (Emerson, Ferris, & Gardner, 1998; Spitzberg & Cupach, 2003). The core assumption of relational stalking as defined by Emerson et al. (1998) is an “unilateral pursuit” that imposes upon other a relationship “frequently unreciprocated and even explicitly contested” (p. 295) by the target. This conceptualization of stalking as a relational phenomenon suggests that one must go beyond intra-individual models of understanding and take on an alternative a sociocultural perspective. This shift in paradigm implies that stalking is better understood as a “socially-sanctioned behavior” rather than a “socially-deviant behavior” (Lee, 1998, p.373). Based on this assumption, stalking mostly emerges from a twisted notion of normative practices of courtship and romance. Establishing when stalking begins is still difficult. Firstly, because stalking is permeable to western cultural practices of courtship and secondly because early stages of stalking may overlap with expected courtship and dating practices (Finch, 2001; Sinclair & Frieze, 2000). Due to its ambiguous limits, the range of stalking activities is far from consensual, and may vary between persistent courtship behaviors and severe physical aggression (Williams, Frieze, & Sinclair, 2007). For these reasons several

researchers (e.g., Coleman, 1997; Cupach & Spitzberg, 2004; Emerson et al., 1998; Langhinrichsen-Rohling, Palarea, Cohen, & Rohling, 2000; Lee, 1998; Sinclair & Frieze, 2000, 2005; Williams & Frieze, 2005) have become interested in the process by which a normal courtship turns into an intrusive pursuit.

This perspective has expanded the definition of stalking and has led to the emergence of broader concepts that allow studying relational stalking rather as an extreme form of an unwanted pursuit. Within this framework, one of the most comprehensive concepts is the *obsessive relational intrusion* (ORI) that corresponds to a pattern of "repeated and unwanted pursuit and invasion of one's sense of physical or symbolic privacy by another person, either stranger or acquaintance, who desires and/or presumes an intimate relationship" (Cupach & Spitzberg, 1998, pp. 234-235). Other similar concepts which draw on particular relational scenarios, like *courtship persistence* (Sinclair & Frieze, 2002, 2005) and *breakup persistence* (Williams & Frieze, 2005) are applied to study how these experiences can evolve to courtship stalking and breakup stalking, respectively (Williams, Frieze & Sinclair, 2007). These wide-ranging concepts include attempts that go from what is considered pestering or merely annoying behaviors to others that can be considered stalking. Studies have shown that these broad concepts are related with common experiences, which have been observed in college samples (e.g., Cupach & Spitzberg, 2000; Dennison & Stewart, 2006; Langhinrichsen-Rohling et al., 2000; Sinclair & Frieze, 2000).

Bearing in mind the exploratory nature of this study, we operationalized a concept that may capture this broad experience, and which ultimately may manifest as stalking. Also, we did not restrict it to a particular relational scenario nor did we imply a negative perception of the target as suggested by expressions such as "invasion" or "intrusion". As such, we set out to study a subjective experience – *unwanted relational pursuit* (URP) – triggered by a love rejection. The URP concept includes all the activities that are enacted in an unrequited

love scenario in order to express or reassure the pursuer's one-side interest, despite the symbolic or explicit rejection of the target. The *pursuit* comprises the notion of ongoing efforts, expressed by a multiplicity of proactive tactics engaged by the pursuer in order to achieve a relational goal. Those can range from usually socially-legitimated behaviors of courtship and approach (e.g., expressing affection publicly, sending messages or direct approaching) to recurring harassment and invasion tactics (e.g., following, searching for information) and to explicit acts of violence (e.g., physical assault). In this view, the pursuer's position implies an active role by imposing a relationship to other. Thus, the *pursuit* expression relates to the pursuer's activity and goal. The *unwanted* form pertains to the target side of the relationship indicating a target's antagonistic position, which may be expressed actively or implicitly. Therefore, the URP concept expresses an asymmetry in the target-pursuer relationship. In the same way, stalking can be precisely defined as an imposed relationship, which may constitute a disruptive experience mainly for targets. Although relational stalking mainly emerges from an unwanted pursuit, one question remains: at which point can this conduct be considered stalking?

### **Perspectives on targets and pursuers**

Defining what experiences URP constitute stalking represent an interpretative task (Emerson et al., 1998). Many structural definitions of stalking that rely on static indicators, like the fear standard, have failed to match victims' self-definition (Dietz & Martin, 2007; Tjaden, Thonnes, & Allison, 2000). Targets' perceptions appear to be crucial in defining what constitutes stalking (Mullen, Pathé, & Purcell, 2000). However, it is important to note that the way in which targets perceive the pursuit is not static. Targets may reinterpret initial courtship behaviors, first appraised as romantic and ordinary, based on their last experience of unwanted pursuit. In other words, such behaviors may fall in what Emerson et al. (1998) call "pre-stalking" – "the earlier stages that precede a clear recognition of stalking" (p.291).

This is especially relevant in courtship stalking, when initial contact may suit cultural romantic repertoires for developing a consensual romantic relationship (Dunn, 2002; Finch, 2001; Williams et al., 2007).

Also, to only consider the perspective of the pursuer in defining stalking can prove to be an unwise assumption. Not infrequently pursuers tend to minimize or rationalize their actions (Cupach & Spitzberg, 2004; Mullen et al., 2006). Once more, cultural patterns of courtship and romance that reinforce persistence may frame the pursuer's perceptions and support the acceptance of their own acts as romantic or as an expression of love (Davis, Ace, & Andra, 2000). It would appear that pursuers usually fail to recognize when they have crossed the line between "normal" courtship and stalking (Sinclair & Frieze, 2000).

Previous research shows that perspective shapes the way stories are told, and pursuers rate their actions more positively and minimize negative outcomes on targets (Langhinrichsen-Rohling et al., 2000; Sinclair & Frieze, 2005). A study by Sinclair (2012) showed that when participants took on the pursuer's perspective they attributed their behavior more to external factors and the targets behavior more to negative internal factors rather than when participants took on the target's position. Targets and pursuers may have distinct perceptions of the same event and this can mostly be due to an asymmetrical understanding of the nature of the relationship (Emerson et al., 1998; Mumm & Cupach, 2010).

Nevertheless, the pursuer's understanding of the event is fundamental for a deeper comprehension of the course and evolution of the unwanted pursuit. For example, targets of unrequited love may find it difficult to express rejection clearly. Targets' mixed or blurring messages can be misunderstood as an opening by pursuers, who find in it some sort of approval and reinforcement for their actions (De Becker, 1997). On the other hand, the pursuer's perception of the target's rejection or avoidance might trigger ambivalent feelings that lead to new approaches which are more intimidating and manipulative (Finch, 2001;

Mullen et al., 2000; Spitzberg & Cupach, 2003). This turning point in the nature of the pursuer's conduct is usually associated with a shift in motivation: "the turn toward revenge" (Emerson et al., 1998, p. 309). This progression is illustrated by the study of Burgess et al. (1997) that described a three stage classification of stalking behaviors. The first stage includes open attempts to contact the ex-partner. In the second factor, stalking behavior become clandestine at the same time that love is converted to hate. The third and ultimate stage results from the split between love and rage and between the secrecy and public stalking. In this last phase, stalkers "[...] suddenly explode and [...] entered the victim's residence and were very violent" (Burgess et al., 1997, p. 399). Relational stalking is therefore constructed through a dynamic progression, where actions and appraisals are interconnected, redefining the target-pursuer relationship in an ongoing process.

### **Gendered perspectives**

Perceptions of relational stalking are not only defined by one's relational position. Since relational stalking is culturally embedded, it cannot be understood as an isolated phenomenon but rather as a construction that emerges from sociocultural dynamics, reflecting individual positions in an intersectional matrix. For instance, in Sinclair and Frieze's (2005) study, gender effects mainly come forward when men assume the pursuer role and women report themselves as targets. Moreover, perceptions seem to result from the interplay of gender and the position adopted in the dyad. For instance, based on a prototypical dyad (female target/male pursuer), men showed more victim blaming tendencies by resorting more to stalking myths (Sinclair, 2012) and attributed fewer guilty verdicts than women in a study using a mock-juror methodology (Dunlap, Hodell, Golding, & Wasarhaley, 2012).

Recent meta-analysis studies (Spitzberg, Cupach, & Cicerano, 2010) indicate that women were two or three times more likely than men to be victims of stalking. Accounting only for meta-analysis results that include studies on unwanted pursuit (broader than

stalking), women were more likely to report they had been persistently pursued and twice as likely to claim that this was a fearful or threatening situation. Men were more likely than women to admit that they had engaged in such conduct. Gender differences in unwanted pursuit and stalking can be understood through the lens of coercive control (cf. Davis, Swan, & Gambone, 2012). Therefore, the behavior of the male pursuer should be framed under broader gendered social forces which reinforce male privilege and power over women. Based on this finding, the pursuit engaged by females is not supported by dominant cultural norms and consequently is taken as an unexpected behavior (e.g., De Becker, 1997; Kamir, 2001). As suggested, gender shapes perceptions – the same behavior may be considered more threatening and fearful when performed by a man (cf. Davis & Frieze, 2000; Langhinshen-Rohling, 2012; Lyndon et al, 2012 for a review).

### **Study overview**

In this study, we set off from targets and pursuers accounts in order to learn about their experiences and perceptions of URP. Data from targets and pursuers was analyzed (using SPSS version 19) to explore experiences and perceptions regarding URP. Firstly, we examined whether participants had been a target and/or a pursuer of URP, which enabled us to establish their relational positions as targets and pursuers and to determine the overlap between targets and pursuers' relational positions. Secondly, we asked targets and pursuers about how the unwanted love interest was demonstrated, which was assessed by using a list of behaviors that reflected three types of URP behaviors: *courtship & approach*, *harassment & invasion*, and *threats & violence*. Finally, with regard to target reactions to the pursuit, in the target form we asked how they had reacted and in the pursuer form we invited pursuers to indicate their perception of the targets reactions to their actions. Furthermore, we carried out a multinomial regression to analyze the influence of gender and URP behaviors by discriminating between positive, neutral and negative reactions.

## Method

### Participants

Three hundred and eighty eight college students between 18 and 30 years old were volunteers in this study. Participants were recruited from twelve undergraduate programs at a Portuguese university. The most represented undergraduate programs were Psychology (24.5%), I.T. Engineering (18.3%) and Basic Education (12.6%). The sample was comprised of 231 women (59.5%) and 157 men (40.5%). Most participants were Portuguese (97.2%). The majority of the participants were single (98.7%). The average age of participants was 20.30 ( $SD=2.30$ ).

### Procedures

Participants were recruited to take part in a survey study of “unrequited love”. In Portugal there is no Ethics Committee to supervise psychological research. All participants received an informed consent document regarding ethical questions about confidentiality, anonymity and data treatment procedures. The questionnaire was administrated to all consenting participants during class by the first author. Participants did not receive any compensation for completing the questionnaire.

### Measurement

The questionnaire used was purposefully developed for this study due, on one hand to its specific focus and on the other hand due to the fact that there have been no research or measures focusing on stalking or URP in Portugal. Before reaching the final version, previous versions were presented to Portuguese experts in interpersonal violence and then subjected to a pilot-test with fifteen students in order to ensure that the questionnaire was intelligible. Demographic data aside, the questionnaire was composed by two parts (Part I: Target form; Part II: Pursuer form). To control a possible order effect, the pursuer form and the target form were presented in an inverted order to half of the sample. The questionnaire

addressed the following items:

**Experiences of URP.** In order to assess the experiences of URP, each form was introduced by a screening question, as follows: (1) target screening question «*Has anyone showed you interest in initiating, maintaining or restarting a love relationship in spite of your unwillingness*» (if yes, participant should complete the target form); (2) pursuer screening question «*Have you ever showed interest in initiating, maintaining or restarting a love relationship with someone in spite of his/her unwillingness?*» (if yes, participant should complete the pursuer form). These screening questions were presented to all participants and allowed us to establish two samples: targets and pursuers. Nevertheless, since it was possible for participants to indicate both experiences (as targets and as pursuers), the samples were not mutually exclusive. If participants indicated more than one experience as targets or as perpetrators, they were asked to focus on the most intense experience on the corresponding form(s).

**Behaviors of URP (Stalking Behavior Inventory).** A list of 35 behaviors with a 5 point frequency Likert scale (0 = never, 1= once, 2 = two or three times, 3 = four or five times, 4 = more than five times) was developed based on stalking and harassment literature as well as the results and limitations of other available instruments. These behaviors were presented in a mixed order but were thought to reflect three types of URP behavior. *Courtship & approach* included eleven courtship and approach behaviors that are culturally regarded as common steps towards “winning” target attention (e.g., sending or leaving electronic messages; making unrequited phone calls; direct approaching; establishing contact or becoming close with the target’s friends, relatives or workplace colleagues; proclaiming publicly his/her interest). *Harassment & invasion* comprised of ten behaviors that are typically described as stalking tactics (e.g., following; watching and controlling target behavior; showing up at places; rummaging through garbage or personal belongings; getting

into the target's home, car or other locations where the target might be). *Threats & violence* was comprised of fourteen types of explicit threats or violent behaviors. These represented the most severe tactics and normally reflected an escalation in the severity of the pursuit (e.g., verbally threatening about what "could happen" or "could do"; threatening to hurt him/herself; breaking, damaging or destroying personal property; attempting against the target's life).

**Target reaction to the URP.** This questionnaire included questions about target reactions to URP (Target form) and about the pursuers' perception of the target's reaction (Pursuer form). Both targets and pursuers had to indicate one of the emotional reactions listed and that were further compiled in broader categories as follows: positive reactions (*happy but not interested, interested, fell in love*), negative reactions (*upset, irritated or angry, worried but not scared, frightened or scared*), and neutral reactions (*target had ignored, target did not realized, pursuer did not realized* – the last two categories were directed only at pursuers).

## Results

### Unwanted relational pursuit experiences

Data revealed that URP was a very common experience among participants with only 16.8% ( $n = 65$ ) reporting neither having engaged in an unwanted pursuit nor having been a target of such conduct. The remaining sample was distributed into two sub-samples identified through screening questions that assigned targets and pursuers' positions. Thus, 71.4% ( $n = 277$ ) were identified as targets and 53.6% ( $n = 208$ ) as pursuers. It is worth noting that 41.8% ( $n = 162$ ) of all the participants assumed a double positioning towards the unwanted pursuit. These participants reported experiences of unwanted pursuit as targets and also as pursuers. Data indicated an overlap of 58.5% in the targets group and 77.9% in the pursuers group (see Table 1). The relational position (single/double) is significantly associated with gender in the pursuers' group ( $\chi^2(1) = 9.56, p < .01$ ). A double positioning was

indicated mostly by women (60.5%) while a single positioning as pursuers was indicated mostly by men (65.2%).

Table 1.

*Unwanted relational pursuit experiences*

Relational Position, <i>n</i> (%)	TARGETS			PURSUERS		
	Total ( <i>n</i> =277)	Women ( <i>n</i> =176)	Men ( <i>n</i> =101)	Total ( <i>n</i> =208)	Women ( <i>n</i> =114)	Men ( <i>n</i> =94)
Single Positioning	115 (41.5)	78 (67.8)	37 (32.2)	46(22.1)	16(34.8)	30(65.2)
Double Positioning	162 (58.5)	98 (60.5)	64 (39.5)	162(77.9)	98(60.5)	64(39.5)
Refused / Missing	0			0		
Pearson Chi-Square		$\chi^2(1)=1.56, p=.21$			$\chi^2(1)=9.56, p< .01$	

**Unwanted relational pursuit behaviors**

Each one of the 35 URP behaviors was 1 and 33 behaviors ( $M = 8.42, SD = 4.28$ ) and pursuers perpetrated between 1 and 16 behaviors (experienced by or engaged in at least once by targets and pursuers, respectively. Targets experienced between  $M = 5.78, SD = 2.91$ ). Further analysis revealed gender differences among targets,  $t(262) = 3.45, p < .001$ , with female targets ( $M = 9.11, SD = 4.16$ ) reporting more URP behaviors than male targets ( $M = 7.27, SD = 4.25$ ). However, there were no significant differences between the average of different URP behavior engaged in by female pursuers ( $M = 2.89, SD = .27$ ) and by male pursuers ( $M = 2.94, SD = .31$ ),  $t(202) = -.98, p > .10$ .

Considering the types of URP behaviors, *courtship & approach* behavior was

reported by most of the targets (99.6%) and all the pursuers. In turn, *harassment & invasion*, the prototypical stalking behavior, was also commonly reported by both targets (70%) and pursuers (57.7%). *Threats & violence* behavior was the less but noteworthy reported tactic, as indicated by 28.5% of targets and 9.6% of pursuers. Nevertheless, none of these types of behavior were experienced or perpetrated with a high average frequency. *Courtship & approach* presented a higher frequency than other types of behavior for both targets ( $M = 1.5$ ,  $SD = .72$ ; one to two/three times) and pursuers ( $M = .99$ ,  $SD = .63$ ; approximately one time). By contrast, *harassment & invasion* ( $M = .34$ ,  $DP = .42$  for targets;  $M = .18$ ,  $DP = .24$  for pursuers) and *threats & violence* ( $M = .10$ ,  $DP = .27$  for targets;  $M = .03$ ,  $DP = .15$  for pursuers) had a very low average frequency (less than once for each behavior). As shown in Table 2, gender differences were found among targets, since women reported having experienced more *courtship & approach* ( $z = -2.93$ ,  $p < .01$ ) and more *harassment & invasion* tactics ( $z = -4.13$ ,  $p < .001$ ) than men. Among pursuers there were no gender differences regarding the frequency of engaged behaviors. Nevertheless there was a tendency for male pursuers to report engaging in more *courtship & approach* than women ( $z = -1.86$ ,  $p = .06$ )

Table 2.

*Types of URP behaviors*

Types of URP Behaviors	TARGETS			PURSUERS		
	Women (n=176)	Men (n=101)	Z	Women (n=114)	Men (n=94)	z
<b>Courtship &amp; Approach</b>						
Mean Frequency (SD)	1.61 (.73)	1.33 (.67)	-2.93**	.89 (.56)	1.11 (.71)	-1.86 <sup>+</sup>
Ever experienced / ever perpetrated	100%	99.0%		100%	100%	
<b>Harassment &amp; Invasion</b>						
Mean Frequency (SD)	.38 (.41)	.25 (.44)	-4.13***	.18 (.25)	.17 (.22)	-.35
Ever experienced / ever perpetrated	79.5%	53.5%		55.3%	60.6%	
<b>Threats &amp; Violence</b>						
Mean Frequency (SD)	.10 (.26)	.09 (.29)	-.99	.03 (.18)	.02 (.10)	-.44
Ever experienced / ever perpetrated	30.7%	24.8%		8.8%	10.6%	

<sup>+</sup>  $p < .1$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

**Perceptions of target reaction**

As detailed in Table 3, a large proportion of targets (41.1%) reported a negative reaction to the unwanted pursuit. In turn, the majority of pursuers (50.7%) stated that their actions had triggered a positive reaction in their targets.

Table 3.

*Targets and pursuers' reports about the reaction of the target*

Target's reaction, <i>n</i> (%)	TARGETS			PURSUERS		
	Total ( <i>n</i> =277)	Women ( <i>n</i> =176)	Men ( <i>n</i> =101)	Total ( <i>n</i> =208)	Women ( <i>n</i> =114)	Men ( <i>n</i> =94)
Positive	101(38.1)	50(49.5)	51(50.5)	105(50.7)	47(44.8)	58(55.2)
<i>Happy but not interested</i>	67(25.3)	29(43.3)	38(56.7)	49(23.7)	20(40.8)	29(59.2)
<i>Interested</i>	15(5.7)	9(60)	6(40.0)	36(17.4)	19(52.8)	17(47.2)
<i>Fell in love</i>	19(7.2)	12(63.2)	7(36.8)	20(9.7)	8(40.0)	12(60.0)
Neutral	55(20.8)	37(67.3)	18(32.7)	76(36.7)	50(65.8)	26(34.2)
<i>Ignored</i>	55(20.8)	37(67.3)	18(32.7)	28(7.2)	18(64.3)	10(35.7)
<i>Target didn't realized<sup>a</sup></i>	-	-	-	15(7.2)	12(80.0)	3(20.0)
<i>Pursuer didn't realized<sup>a</sup></i>	-	-	-	33(15.9)	20(60.6)	13(39.4)
Negative	109(41.1)	79(72.5)	30(27.5)	26(12.6)	16(61.5)	10(38.5)
<i>Upset</i>	47(17.7)	31(66.0)	16(34.0)	8(3.9)	4(50.0)	4(50.0)
<i>Irritated/Angry</i>	18(6.8)	12(66.7)	6(33.3)	8(3.9)	6(75.0)	2(25.0)
<i>Worried but not scared</i>	32(12.1)	25(78.1)	7(21.9)	7(3.4)	4(57.1)	3(42.9)
<i>Frightened / Scared</i>	12(4.5)	11(91.7)	1(8.3)	3(1.4)	2(66.7)	1(33.3)
Refused / Missing	12			1		
Pearson Chi-Square		$\chi^2(2) = 12.46, p < .01$		$\chi^2(2) = 8.44, p < .05$		

(a) Acceded only for pursuers.

There was a significant association between gender and the targets' reaction to the pursuit ( $\chi^2(2) = 12.46, p < .01$ ). While neutral and negative reactions were experienced mostly by female targets (67.3% and 72.5%, respectively), positive reactions were indicated mostly by male targets (50.5%). Concerning pursuers, gender was also associated with the perceptions of the target's reaction to their pursuit ( $\chi^2(2) = 8.44, p < .05$ ). While neutral and negative reactions were reported mostly by female pursuers (65.8% and 61.5%, respectively), male pursuers indicated more positive perceptions regarding targets' reaction to the unrequited pursuit (55.2%).

### **Predictors of the targets' reaction**

Multinomial logistic regression analysis was used to assess whether gender and three types of URP behavior (*courtship & approach, harassment & invasion, threats & violence*) could predict the inclusion of targets and pursuers in a specific category (negative reaction as the baseline category) by contrast with the remaining categories (positive and neutral reactions). For both groups, the model included only the main effects of predictors.

*Harassment & invasion* and *threats & violence* variables were dichotomized (never or ever experienced/engaged) to avoid numerical problems caused by too many cells with no cases, as suggested by Tabachnick and Fidell (2007). After testing statistic assumptions and controlling other possible problems, multiple binary logistic regressions were performed to test the exclusion of outliers or influential cases (cf. Hosmer & Lemeshow, 2000; Tabachnick & Fidell, 2007). After excluding outliers and missing cases, data from 247 targets and 198 pursuers was available for analysis.

In regards to target data, the first model was statistically significant ( $\chi^2(8) = 86.53, p < .001$ ), indicating that the combination of predictors was able to distinguish target reactions. The model explained between 29.6% (Cox and Snell R-Square) and 33.7% (Nagelkerke R-Square) of variance and correctly classified 55.6% of cases. Using likelihood ratios to assess

how individual predictors contributed to the model, the inclusion of targets' sex ( $\chi^2(2) = 11.53, p < .01$ ), *courtship & approach* ( $\chi^2(2) = 7.47, p < .05$ ), and *threats & violence* ( $\chi^2(2) = 50.01, p < .001$ ) significantly improved prediction. As shown in Table 4, female targets were about 3 times ( $1/.34 = 2.94$ ) less likely than males to report positive reactions rather than negative reactions. Those who reported never having been a target of *threats & violence* (vs. ever experienced) were about 10 times more likely to indicate having reacted positively and almost 13 times more likely to report a neutral reaction rather than a negative one. Targets that reported more *courtship & approach* were twice as ( $1/.43 = 2.32$ ) less likely to indicate a neutral reaction rather than a negative reaction.

Regarding the prediction of pursuers' perception of how their targets reacted, the first model was also statistically significant ( $\chi^2(8) = 37.87, p < .001$ ), indicating that the combination of the predictors was able to distinguish the perceived reaction. The model explained between 17.4% (Cox and Snell R-Square) and 20.7% (Nagelkerke R-Square) of variance and classified correctly 54.0% of cases. The following predictors significantly improved the model: pursuer's sex ( $\chi^2(2) = 15.02, p < .001$ ), *courtship & approach* ( $\chi^2(2) = 6.15, p < .05$ ), and *threats & violence* ( $\chi^2(2) = 10.90, p < .01$ ). As shown in Table 4, female pursuers were about 8 times ( $1/.12 = 8.33$ ) less likely than males to report that the target reacted positively rather than negatively. Although marginally significant ( $p = .07$ ), compared to male pursuers, females were almost 4 times ( $1/.27 = 3.70$ ) less likely to report neutral reactions instead of reporting negative reactions. Those who reported never having perpetrated *threats & violence* (vs. ever perpetrated) were about 11 times more likely to perceive positive reactions and almost 5 times more likely to report neutral reactions rather than reporting a negative reaction in targets. Pursuers that reported more *courtship & approach* were 2.6 times ( $1/.39 = 2.56$ ) less likely to perceive neutral reactions than negative ones.

Table 4.

*Multinomial Regression with Negative Target Reactions as Baseline*

TARGETS (N = 247)	POSITIVE vs. NEGATIVE REACTION				NEUTRAL vs. NEGATIVE REACTION			
Predictors	B (SE)	Wald	OR	95% CI	B (SE)	Wald	OR	95% CI
<i>Target's sex</i> (female = 0; male = 1)	-.10 (.36)	9.14**	.34	[.16 – .68]	-.20(.44)	.22	.82	[.35 – 1.93]
<i>Courtship &amp; Approach</i>	-.21(.25)	.68	.82	[.50 – 1.32]	-.85(.33)	6.68*	.43	[.23 -.82]
<i>Harassment &amp; Invasion</i> (never = 0; ever = 1)	.46(.39)	1.43	1.59	[.75 – 3.37]	.48 (.46)	1.18	1.62	[.68 – 3.88]
<i>Threats &amp; Violence</i> (never = 0; ever= 1)	2.33(.43)	29.97***	10.29	[4.48 – 23.70]	2.55(.64)	15.90***	12.76	[3.65 – 44.63]
PURSUERS (N = 198)	POSITIVE vs NEGATIVE REACTION				NEUTRAL vs NEGATIVE REACTION			
Predictors	B (SE)	Wald	OR	95% CI	B (SE)	Wald	OR	95% CI
<i>Pursuer's sex</i> (female = 0; male = 1)	-.214(.73)	8.55**	.12	[.03 – .49]	-1.31(.74)	3.13 <sup>+</sup>	.27	[.06 – 1.15]
<i>Courtship &amp; Approach</i>	-.41(.41)	.99	.66	[.30 – 1.49]	-.94(.43)	4.68*	.39	[.17 – .92]
<i>Harassment &amp; Invasion</i> (never = 0; ever = 1)	.94(.72)	1.73	2.56	[.63 – 1.39]	.99(.72)	1.90	2.68	[.66 – 10.90]
<i>Threats &amp; Violence</i> (never = 0; ever= 1)	2.45(.75)	10.59***	11.55	[2.65 – 50.42]	1.56(.70)	4.94*	4.77	[1.20 – 18.96]

### **Discussion and Conclusion**

The current study investigates experiences and perceptions of unwanted relational pursuit among targets and pursuers. Its goal was to determine whether gender and specific behaviors influenced how targets reacted and how pursuers perceived the target's reactions. Showing love interest despite knowing that it is unreciprocated and unwanted seems to be a very common experience among Portuguese college students. From all the participants, 71.4% were targets of URP and 53.6% admitted to engaging in an unwanted relational pursuit at some point in their lives. Interestingly, almost 42% of participants identified themselves both as targets and as pursuers. The double positioning or overlap matches almost 60% of targets' sample and almost 80% of the pursuers' sample. Considering this data, the foremost consideration is that URP is an ordinary experience and that participants could easily repeat this behavior in reversed roles. This means that when facing a love rejection most young adults tend to persist instead of quitting and moving on, which makes URP an expected conduct in the face of love rejection. Also, the overlap rates pose important questions regarding the dynamics of targets and pursuers. The eventual progression or inversion of roles may stem from a degree of immaturity in young adults regarding the initiation and negotiation of relationships, which facilitates the movement between the role of target and the role of pursuer, therefore making it more difficult to identify behavior as inappropriate. This developmental perspective which focuses on relational immaturity and on the lack of social skills is also shared by Ravensberg and Miller (2003) as one possible explanation for the high prevalence of stalking amongst young adults. This view describes them as a group who are particularly vulnerable to stalking victimization, as demonstrated by large-scale studies with general population samples (Budd & Mattinson, 2000; Matos, Grangeia, Ferreira, & Azevedo, 2011; Purcell, Pathé, & Mullen, 2002; Tjaden & Thonnes, 1998; Walby & Allen, 2004). Nevertheless, more information is needed about the sequence of roles within and

across relationships. If the movement between the target and the pursuer roles mainly happens amongst different relationships, then, cross-cutting factors should be stressed, such as legitimating dynamics (sociocultural explanations) or developmental issues that particularly affect young adults. However, the overlap between target roles and pursuer roles might also result of a role inversion within the same relationship, indicating a role “evolution”. Therefore, and adding to the previous explanations, these dynamics might reflect relationship patterns found in abusive relationships, which, in more extreme cases, translate into mutual or reactive stalking. In this case the question which arises is that of the risk factors that may contribute to the possible reification of the victim's or the stalker's position in a stalking scenario.

In this study nearly all targets and pursuers reported experiencing or engaging in at least one of *courtship & approach* behaviors. Also, this type of behaviors presented a higher frequency when compared to the other two types of URP behaviors. Although these behaviors are recurrently perceived as non-intrusive, when unwanted, recurrent, exacerbated, or placed among other incursions they can be interpreted as a pursuit tactic. In these cases, they are no longer seen as flattering behavior but as a clear message which emphasizes asymmetric perceptions and unilateral intentions (Mumm & Cupach, 2010). This finding is especially relevant because this type of behavior was frequently associated with *harassment & invasion* behavior, as reported by the large majority of targets and more than half of pursuers, and particularly *harassment & invasion* tactics which are currently described as typical stalking behaviors (e.g., following, watching and controlling target's behavior). *Threats & violence* behaviors were less reported, but given that this type of behaviors are comprised of explicit threats and violent behaviors it is noteworthy that results correspond to 29% of targets and to 10% of pursuers. Despite the low average frequency of clearly intrusive and also violent behaviors, many URP experiences reported by participants are far from being

merely a soft version of relational stalking (Grangeia & Matos, 2017, Matos, Grangeia, Ferreira, & Azevedo, 2012). The fact that fewer participants indicated behaviors as increasingly intrusive might reveal different stages of URP and the strategic and dynamic nature of its progression, i.e. the failure of previous tactics may lead to new strategies which are often more intrusive (Cupach & Spitzberg, 2004). Also, URP seems to be characterized by a variety of tactics – between eight and nine different behaviors for targets and six for pursuers – which indicates the versatility of young adults when dealing with love rejection.

One of the most important indicators of the seriousness of URP might be the target's perceptions of the behavior rather than the behavior itself. In this sense, it is worth noting that 41.1% of targets reported reacting negatively to URP, out of which 12.1% expressed fear as a result, which in turn matches a more restricted definition of the stalking experience. Targets also expressed reacting positively (38.1%) or just ignoring pursuer's advances (20.8%). This might indicate that URP can also be “successful” (Langhinrichsen-Rohling et al., 2000; Williams et al., 2007) or perceived as innocuous. Nonetheless, these assumptions should be taken carefully given that these perceptions may change over time and progress into negative ones. An initial approach using romantic symbols may blur the target's understanding of the pursuer's action by interpreting it as flattery or prompting ambivalent feelings (Dunn, 1999, 2002). Moreover, in the initial stages of stalking, victims can underemphasize the pursuers' messages since they do not easily foresee an escalation, especially if the behaviors were not violent acts and this might inhibit victims to take action (Cox & Speziale, 2009). For these reasons, we cannot simply assume that targets who did not indicate reacting negatively will not become stalking victims because this assumption implies a static view of stalking. Instead, a defining perspective of relational stalking should reflect an “interpretative outcome, not a necessary result of a particular bundle of facts” (Emerson et al., 1998, p.292). Besides this, the dynamic nature of the target's perspective of URP should also be understood

in parallel with the pursuer's accounts because targets and pursuer's appraisals and actions are interdependent. As pointed out by Spitzberg and Cupach (2003), "the stalk becomes a chess game of move and countermove" (p.350). In this study, targets and pursuers' reports were not based on the same URP events; neither had we run statistical comparative analysis between the two. Despite this limitation, divergent perceptions of URP are supported by targets and pursuers, namely concerning the target's reactions. The majority of pursuers interpreted targets' reaction as positive (50.7%). It could be the case that the unwanted relational pursuit reported by these pursuers was actually positively appraised by targets, but the literature also pointed that often pursuers' perspectives are not accurate (Cupach & Spitzberg, 2004; Mullen et al., 2006; Sinclair & Frieze, 2000) and tend to be presented in more self-favoring ways (Langhinrichsen-Rohling et al., 2000; Sinclair, 2012; Sinclair and Frieze, 2005). Some of these pursuers might be what De Becker (1997) called "naïve stalkers", the ones that pursue convinced that they are simply incurring in "normal" courtship without realizing that their behaviors are inappropriate. In fact, the "quest" they are engaged in can be so overwhelming that it makes them blind or unable to see or understand the target's unwelcome messages and defensive reactions. This kind of pursuers may also fall into the category of "incompetent suitor" (Mullen et al., 2000; Mullen, Pathé, Purcell, & Stuart, 1999) that includes those who are impaired in their social skills and show insensitivity about how the targets are experiencing such conduct (Mullen et al, 2000).

Results from regression analysis provide the most significant finding in this study. Findings for both targets and pursuers were similar, which is quite relevant since it indicates that pursuers might not have such a distorted perception of targets' reaction as previously discussed. The same variables which predicted the pursuer's perception of the target's reactions were the same as those which predicted the target's reactions. However, these results must be approached with caution since they do not result from direct comparative data

between targets and pursuers and most of the target and pursuer samples consisted of participants who self-reported a double positioning. In regards to URP behaviors, *threats & violence* were the strongest predictors in reporting negative reactions, rather than positive or neutral ones. These “severe” tactics which are comprised of open threats and violence are the ones that mostly differentiate perceptions and probably the ones that most clearly distinguish courtship from stalking. One explanation might involve the Portuguese legal frame that clearly condemns these behaviors as criminal actions thus supporting such negative perceptions. Many *courtship & approach* and *harassment & invasion* behaviors were only criminalized in Portugal after this study (e.g., watching or following the target), so they may hold ambiguous interpretations and be considered an extension of normative practices of courtship. The experience and the perpetration of *courtship & approach* only differentiated between negative and neutral perceptions, and not between negative and positive reactions. One explanation for this result may rest on a more subtle distinction between neutral and negative reactions than between positive and negative reactions, particularly if “softer” negative reactions are considered, such as *get upset* or *irritated*. In this sense, the increased experience or perpetration of *courtship & approach* may act as a turning point in what may be considered as an innocuous behavior to its perception as negative. In line with this explanation, Mumm and Cupach (2010) analyzed the progression of URP and found that the most common critical incident that indicated troublesomeness and severity escalation for victims corresponded to ordinary manifestations of affection, like proclaiming love to targets. Explaining why *harassment & invasion* behaviors did not predicted targets’ reactions or pursuers’ perceptions was the most challenging. These are tactics which define the prototypical stalking behaviors (e.g., “watching and controlling the target’s behavior”, “following the target”, “unauthorized photographing or filming”, “showing up at places). One possible explanation is that such behaviors do not necessarily imply direct contact between

the target and the pursuer. Contrarily, *courtship & approach* and *threats & violence* behaviors entail direct confrontation, thus forcing an immediate reaction by targets. Also, because of the unilateral dynamics of *harassment & invasion* behaviors, pursuers might not be focused on target reactions and therefore they do not acknowledge them. Overall, these arguments imply that the objective classification of URP behaviors as soft, mild or severe might not reflect its actual nature. All behaviors should be contextualized and their meaning as well as their seriousness should be interpreted within URP and stalking dynamics.

Currently the discussion about the gendered nature of stalking is part of the gender debate on intimate violence literature (e.g., Anderson, 2005; McHugh, 2005) and its effects are evident in this study. In this study gender appears to shape perceptions. The results achieved concerning gender and the overlap between target and stalker pursuer may help clarify the debate on the gender symmetry that has been progressively announced in the studies on intimate partner violence among young people (cf. Straus, 2010). Firstly, gender differences emerge when the pursuer position is considered, with double positioning (target and pursuer) reported mostly by female pursuers and a single positioning reported mostly by male pursuers. This discrepancy suggests some hypotheses: i) when females are targets of URP, they replicate that experience more easily as pursuers (from target to pursuer); ii) when females engage in such behaviors they might create relational dynamics in which URP is normalized and roles are switched (from pursuer to target); iii) females reported more easily their position as pursuers when they had also been a target, which minimizes the perceived disruption of expected gender role (as pursuers). In line with the last hypothesis, the single positioning as pursuer is mostly occupied by males, which is in line with an expected active role in the development of a relationship. In fact, men and women are expected to place themselves on different sides of a relationship. Lee (1998) argued that “stalking may be rooted in our “no means yes” culture, in which women are made to play of the resisting, yet

yielding target, and men the role of the romantic pursuer, relentless despite the woman's protests" (p. 389). A qualitative study developed in Portugal (Grangeia & Matos, 2013) using focus groups discussions on unrequited love with high school and college students showed that the dominant discourses reflected a stalking double standard by recasting it as legitimate courtship, mainly for male stalkers, or as pathology, particularly for female stalkers.

Prototypical stalking cases are thus expected to be constituted by a male stalker and a female victim (Yanowitz & Yanowitz, 2012). Also, a study conducted by Sinclair and Frieze (2005) on courtship persistence highlighted that perspectives are particularly divergent when women report themselves as targets and men position themselves as pursuers. Male pursuers in particular tended to over-report reciprocation and under-report rejection, whilst female targets were more likely to express rejection efforts and minimize positive signs. These authors suggest that "event recall may be shaded by the familiarity of the role" (p.848).

When considering gender as well as the target's experiences of URP, female targets differentiate themselves from males by reporting a wider variety of URP behaviors and a higher frequency of *courtship & approach* and *harassment & invasion* tactics but not of *threats & violence*. However, it is important to note that this last type of URP behavior was reported at a very low average frequency. A possible explanation may be that women are more aware of the advances of pursuers and therefore report more "subtle" behaviors. In fact, open threats and violent behaviors are more prone to a clear recognition because of their intrusiveness as well as their solid criminal status in Portugal. The consensus between men and women seems to be higher when the focus is on behaviors that are objectively identifiable as illicit. Women's tendency to be more aware of stalking or URP situations is in line with the extensively discussed assumption that women perceive stalking as more serious than men (cf. Davis & Frieze, 2000; Langhinshsen-Rohling, 2012; Lyndon et al., 2012 for a review).

The gendered perceptions held by targets in this study support this position: neutral and negative reactions having been reported mostly by female targets and positive reactions indicated mostly by male targets. Moreover, regression results showed that female targets are more likely to react negatively to URP (vs. positive reactions) than male targets. Previous research also showed that negative reactions, especially fear, are gender-specific (e.g., Tjaden & Thonnes, 2000). Fear as a response deserves particular attention (91.7% of female targets and 8.3% of male targets) given that it is a significant predictor of psychological, physical, social and economic consequences (Sheridan & Lyndon, 2012). Consistently, findings regarding pursuers have a mirror effect regarding gender: neutral and negative reactions were reported mostly by female pursuers, and positive reactions were indicated mostly by men. Regression results also corroborate this finding, indicating that male pursuers were more likely than female pursuers to perceive a target's reaction as positive rather than negative. The general tendency for males, both targets and pursuers, to adopt a more positive view of the pursuit is consistent with gendered codes which dictate that men should be proactive in courtship and that an initial female reluctance is expected and not authentic (Dunlap et al., 2012; Lee, 1998; Sinclair & Frieze, 2005). It is notable that male pursuers tended to report more *courtship & approach* tactics than female pursuers, with no gender differences related to the engagement of other types of URP behaviors. Yanowitz and Yanowitz (2012) found that men are less likely than females to consider these persistent courtship behaviors as stalking because they are part of male courtship scripts. In addition, men as targets might have more difficulty to understand female advances as abuse, given that this would challenge the hegemonic construction of "suitable victims" of abuse (Eckstein, 2007) or the "chivalry norm" that trivializes female-to-male violence and constructs it as more acceptable and harmless than male-to-female violence (Thompson, Dennison, & Stewart, 2012). However, female pursuers expressed a more reluctant position than males towards the consequences of

their pursuit, recognizing its potential negative effect on their targets. This may be explained by the major proportion of female pursuers who also report being targets of URP and also because female pursuit may imply a disruption of the normative representation of the expected female behavior, or in other words, is viewed as gender-inappropriate (e.g., De Becker, 1997; Kamir, 2001).

The present study had a few limitations which are worth mentioning. Firstly, although limited to young adults, the sample was obtained among college students, which limits generalization. Future research conducted with representative samples of the overall population would be beneficial to understanding specificities of different groups (e.g., older population, other education levels). Secondly, data collection was conducted in classrooms and this may have constrained reports of more severe forms of URP. Thirdly, the study's design did not allow for the direct comparison of targets and pursuers perspectives hence providing a static picture of their perceptions. Future work would benefit from addressing these limitations and studying target-pursuer dyads over time by focusing on the turning points of the URP process that may change perceptions.

In conclusion, to establish clear boundaries between what is considered stalking and what are merely pestering, annoying and even romantic behaviors is not simple because “behaviors, interpretations, and responses are all culturally – and historically – specific” (Dunn, 2002, p.122). This study showed that despite whether or not an unwanted relational pursuit might be understood as serious or as a crime, URP is a prevailing experience among young adults, usually perceived as disruptive and also it reflects gendered and cultural expectations about courtship. These findings provide a deeper understanding of how relational stalking may stem from normative conceptions of romance and courtship and how it may ultimately be a way of doing gender. Also, understanding relational stalking among young adults in its cultural dimension facilitates a proactive approach in preventing an

unwanted relational pursuit from becoming stalking.

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## Driver Risk Behavior and Locus of Control

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### Abstract

The objectives were: i) to compare the three factors of the Locus of Control scale with the behavior of drivers according to gender, age, type of involvement in accidents; (ii) to verify the relationship between the three factors of the Locus of Control scale (Internal, External-Others and External-Chance) and the four factors of the Driver Behavior Questionnaire (Lapses, Errors, Aggressive Violations, and Ordinary Violations), as well as number of traffic tickets and involvement in accidents. Three questionnaires were used for data collection: sociodemographic Questionnaire, Driver Behavior Questionnaire, and Traffic Locus of Control questionnaires. Results indicate high internality in the sample, with the variables gender, age, weekly driving days, and driving time showing a close relationship with locus of control, namely, in the sense that being male, older, and a frequent driver generates a tendency to blame other road users for transgressions and accidents (External-Others locus of control). Although the study sample reports the occurrence of errors and violations, it only associates lapses to the occurrence of accidents, probably because the sample is mostly composed of inexperienced drivers.

*Keywords:* deviance, gender, law, mental health issues, public security

### Driver Risk Behavior and Locus of Control

According to some studies (e.g., Balbinot, 2011; Rozestraten, 1988) and the World Report on Road Traffic Injury Prevention (WHO, 2004), human behavior (e.g., driving style, decision-making, and risk management during the act of driving) is the main cause of road accidents.

A driver is more than an individual who performs a task. It is a person who is continually influenced by their personality, mood, stress, or by other psychological factors that affect their behavior (Balogun, Shenge, & Odalipo, 2012; Tebaldi & Ferreira, 2004). In other words, driving is a behavior affected by different personality variables (psychological component), as well as the driver's skills (motor component), which requires constant decision-making by the person driving (cognitive component) (Mendes, 2005).

Assuming that experience is not controllable, since there will always be drivers who are more experienced than others, either by the number of years with a driving license, or by the number of kilometers traveled, and that training is more or less identical for all drivers, it remains to analyze possible attitudes of drivers towards risk.

Thus, risk behaviors are “those that, from the observer's point of view, may cause some form of damage to the individual. From the point of view of those who expose themselves to risk, that confrontation is accompanied by a strong perception that something desirable can be conquered” (Botelho, 2008, p. 10).

Accordingly, it is possible to conclude that individuals who choose “to take risks” while driving, thus violating rules that ensure safe driving, do so with the intention to gain some advantage for themselves. For example, a driver exceeds the speed limit in order to gain time, and this gain is considered more advantageous than following traffic rules.

Research in the area of Traffic Psychology has long been guided by results from the application of questionnaires, among which the Driver Behavior Questionnaire (DBQ; Reason, Manstead, Stradling, Baxter, & Campbell, 1990; Portuguese version by Brites et al., 2008) stands out as one of the most consistent and used. It has been possible to draw some conclusions by comparing the data obtained from this questionnaire with some sociodemographic variables.

The DBQ allows the quantification of Errors, Lapses, and Violations. According to Reason et al. (1990), Lapses may be defined as involuntary deviations, normally associated with attention, and do not cause risk of accident. Errors and Violations vary in the degree of intentionality, and can be voluntary or not, but lead to a higher probability of an accident. There are Errors committed by habit (acquired bad practices) and Errors committed by bad judgement of the specific situation. In turn, Violations are deviations in relation to the conduct considered necessary to maintain security. Errors and Violations are managed by different cognitive processes. Thus, Errors result from difficulties in information processing, such as the speed of other vehicles or the distance at which a pedestrian is located, whereas Violations, by being intentional, can only be “regulated” by social characteristics of the individual himself, such as his code of conduct, his driving style, his need to promote himself (Reason et al., 1990).

The locus of control theory was initially developed by Rotter (1966) who designated locus of control as a socio-cognitive variable that allows the perception of causal relationships and the control individuals have over the events of their life. It was initially described as a unidimensional variable, in which individuals were “classified” according to the degree of internality/externality they display. Levenson (1973) defended the multidimensionality of this variable, by assigning it three dimensions: 1) personal, in which the control is in the hands of the individual himself; 2) social, in which the control is assumed as belonging to “powerful others”,

in particular, family, and 3) impersonal, in which control over events is attributed to chance, luck, or fate.

In psychology, beliefs, expectations, and decision-making based on the perception of results are not appreciable factors. Through the Traffic Locus of Control (T-LOC; Özkan, Lajunen, Kaistinen, 2005; Brazilian version by Olandoski, 2012) the locus of control is measurable and classifiable, and, therefore, it is possible to assess its implications in human behavior, and consequently in driver behavior.

Driving style has been associated with the locus of control construct in previous studies (e.g., Holland, Geraghty, & Shah, 2010; Vassallo, Lahausse, & Edwards, 2016). Driving style corresponds to the way drivers usually drive, including speed and attitudes towards the rules of road and, in turn, also functions as a predictor of risk behavior behind the wheel and the likelihood of accidents. Thus, if a driver has an aggressive driving style, they will have a greater tendency to violate the rules of the road, drive at higher speed, and to be unpleasant towards other drivers, therefore increasing the stress levels of all the users of the road (Holland et al., 2010).

Control and behaviors associated with decision-making are not innate, and may be altered by experiences of the individual, by situational variables, and by dispositional variables (a specific state at a given time). Similarly, patterns of internality, externality-others or externality-chance are not stable and may be influenced by stress, anger, or temporary low blood glucose (Balogun et al., 2012).

A study by Holland et al. (2010) revealed that women experience more stress while driving, whereas men take more risks while driving. Furthermore, according to Taylor and Brown (1988), risk-taking establishes a positive relationship with internality, i.e., the higher the levels of

internality are, the greater the tendency for risk will be. These results are, thus, consistent with the hypothesis that men present higher levels of internality than women (they more often perceive that they are in control of the vehicle), while women, conversely, exhibit higher externality rates than men (their stress levels increase when they feel that control is not in their power).

Regarding locus of control and number of accidents, the more external the locus of control is, the higher the likelihood of the driver getting involved in accidents will be (Montag & Comrey, 1987). Again, if we consider that aggressive driving generates a greater number of Violations and increases the probability of an accident, it is possible to conclude, from the study by Balogun et al. (2012), that greater externality is associated with a higher number of accidents. On the other hand, Özkan, Lajunen, and Summala (2006) concluded exactly the opposite in their analysis of young drivers that had been involved in accidents or Violations. Stanton and Young (2000) also concluded that the internal locus of control is associated with risky driving styles, since drivers have more confidence in their ability to prevent accidents. Contradictorily, Huang and Ford (2012) found that individuals with higher internality are more likely to maintain higher levels of attention, use seatbelts and activate the breaks more quickly, which would be synonymous with safer driving.

The conclusions reached by Olandoski (2012) allowed to relate different sociodemographic variables to the results obtained by applying the T-LOC, and to cross these data with the data obtained by applying the DBQ. Therefore, data suggest that the more experienced the drivers are, the higher the internality they exhibit. In other words, they take more responsibility for their deviations while driving, as well as for accidents. Furthermore, individuals who report more Errors, Lapses, and Violations tend to exhibit higher internality, whereas individuals who report

fewer Violations tend to display an external-others locus of control. The external-chance locus of control is positively associated with youth and external-others is associated with individuals over 23 years of age and women. Involvement in accidents also seems to be a variable worth considering, since Olandoski (2012) concluded that individuals who have been involved in accidents tend to have higher values in the external-others category. This author also concluded that drivers characterized by an internal locus of control have been involved in a greater number of accidents. The explanation is based on the higher levels of self-confidence and the perception of control that this locus of control profile entails: if one controls the machine, one takes more risks; if one takes more risks, one has more accidents.

Some sociodemographic variables and driving experience were related to Errors, Lapses and Violations, as measured by the DBQ, and it was found that men commit (or report committing) more Violations than women (Brites, Brardo & Sousa, 2008; Ledesma, Poó, & Peltzer, 2007; Olandoski, 2012; Pimentão, 2008; Veiga, Pasquali, & Silva, 2009), although they state that women commit more Lapses (Olandoski, 2012; Reason et al., 1990). Regarding age, studies clearly point to young people displaying driving behavior with more transgressions in general, more aggressiveness in driving and a greater number of accidents (Balogun et al., 2012; Girão & Oliveira, 2005; Ledesma et al., 2007; Olandoski, 2012; Pimentão, 2008), but Violations decrease with age, whereas Errors increase with the age of the driver (Reason et al., 1990). It was also found that the lower the educational level of the drivers is, the better drivers they consider themselves, which may correspond to committing a greater number of infractions (Tebaldi & Ferreira, 2004). The same applies to driving experience, as the more experienced the driver is, the more likely they are to commit Violations (Girão & Oliveira, 2005; Pimentão, 2008), which

is explained by the fact that “the acquisition of a certain confidence, after the initial fear, may give rise to the need for challenge and trying new things” (Pimentão, 2008, p. 216).

The different studies that have been conducted have not created a theoretical framework able to correctly indicate the association between locus of control and driving style/involvement in accidents. On the other hand, the number of studies developed in Portugal is still poorly expressive, thereby this research intends to analyze risk behavior in a sample of Portuguese drivers, taking into account a greater number of sociodemographic variables and how these are conditioned by the types of locus of control.

## **Method**

### **Participants**

The sample consisted of 222 participants (61.7% women), aged between 18 and 68 years ( $M = 31.7$ ,  $SD = 10.0$ ), mostly from the northern region (81.1%), single (56.8%) and with high school or college-level education (59.9%). Although half of the sample has had a driving license for over 10 years, 27.5% have had legal authorization for less than four years, and 80.6% has entitlement to drive light-duty vehicles (category B). The majority (49.1%) usually drives in urban areas, and of those who report having been involved in an accident, 31.5% suffered property damage. Most of the sample has never been disqualified from driving (94.1%) or tried for any infraction (98.2%). All participants completed the questionnaires voluntarily, with no financial compensation involved.

### **Instruments**

**Sociodemographic Questionnaire.** Questionnaire consisting of 17 questions, which allows the collection of data associated with demographic variables, such as gender, age, marital status, education, place of residence, years of legal entitlement to drive, number of accidents in

which the individual has been involved.

**DBQ.** Initially developed by Reason et al. (1990), it examines the relationship between risk behavior and involvement in accidents. It functions as a predictor of traffic accidents, by analyzing driver behavior in specific situations. In the version developed by Lajunen, Parker, and Summala (2003), the DBQ was updated to allow the quantification of Errors, Lapses, and Violations committed during the act of driving and, thus, assess the risk of a certain driving style. In this study, the version translated and adapted to the Portuguese context and validated by Brites et al. (2008) will be used. This adaptation consists of 27 questions, on a Likert scale of six points, ranging from 0 “never” to 5 “always”, generating a breadth of results ranging from 0 to 135 points, in which the higher the scores are, the greater the driving deviations will be. Five dimensions resulted from Confirmatory Factorial Analyzes: Unintentional Violations, Violations, Errors of Inattention, Sensation Seeking, and Lapses.

Internal consistency, analyzed using Cronbach’s Alpha, showed results of .83 for the total scale, with the dimensions obtaining the following values: .71 (Unintentional Violations), .69 (Violations), .70 (Errors of Inattention), .74 (Sensation Seeking), and .50 (Lapses). Although not all dimensions display adequate psychometric values, the factor structure of the Portuguese version of the DBQ was validated (Brites et al., 2008).

In the present study, Cronbach’s Alpha showed results of .71 for the total scale, with the dimensions obtaining the following values: .77 (Unintentional Violations), .69 (Violations), .73 (Errors of Inattention), .85 (Sensation Seeking), and .56 (Lapses). Values over .70 reveal good internal consistency, although, the Lapses dimension presents a value below .60, which indicates an inadequate value (Pestana & Gageiro, 2008).

**T-LOC scale.** It was proposed by Özkan et al. (2006) and, in its translation to Portuguese

for this work, the suggestions by Olandoski (2012) were taken into account, thus obeying the rules for translating and adapting scales. It consists of 16 items, rated on a Likert scale of 5 points, ranging from 1 “not at all possible” to 5 “highly possible”, which can be analyzed in four dimensions: Internal Factors, External-Others Factors, External-Environment Factors, and External-Chance Factors. However, the consistency analysis by Olandoski (2012) revealed that the analysis in three dimensions, as initially proposed in the scale by Rotter (1966), would justify over 40% of the variance of the results. Therefore, in this study, we present the results of the application of the T-LOC, taking into account three dimensions: Internality, Externality-Others, and Externality-Chance, since it makes the scale “more robust, allowing a theoretically consistent interpretation” (Olandoski, 2012, p. 73).

Internal consistency, analyzed using Cronbach’s Alpha, exhibited good results for Internality, .81, and for Externality-Others, .70. However, Externality-Chance, .29, presented low reliability. In the present study, Cronbach’s Alpha exhibited results of .66 (Internality), .70 (Externality-Others), .48 (Externality-Chance), which demonstrates a reasonable value  $> .60$  for the Internality and Externality-Others dimensions, although, it is not adequate for the Externality-Chance dimension (Pestana & Gageiro, 2008).

### **Procedures**

The questionnaires used for data collection were made available online, through the Google Docs application, a more practical form compared to the traditional version (hand-delivered), because it allowed to economize time and cost. The participants were notified of the purpose of the study and invited to freely and voluntarily participate by filling out the questionnaires after signing an informed consent form.

### **Statistical Analyses**

The questionnaires were organized into a database, using the Statistical Program SPSS, version 20.0, through which the statistical analyses were conducted. Firstly, descriptive analysis were presented. The assumption of normal distribution of the dependent variables in the different groups was verified by the Kolmogorov-Smirnov test, where  $p > .05$ . In order to determine whether there were statistically significant differences according to gender, age, years of experience, involvement in accidents, in the dependent variables (driver behavior and locus of control), univariate analyses of variance were used (independent sample t-test – comparison between 2 groups). The assumption of homogeneity of variance was assessed using the Levene test.

Since the variables were measured on a continuous scale and the assumptions for Pearson's correlation test were met, this test was used to examine the relationship between number of traffic tickets, involvement in accidents and the three factors of the Locus of Control scale (Internal, External-Others and External-Chance), as well as the four factors of the Driver Behavior Questionnaire (DBQ – Lapses, Errors, Aggressive Violations, and Ordinary Violations).

Significance values of  $p < .05$  were considered in all statistical analyses.

## Results

### Descriptive Statistics

**Driver Locus of Control.** It is found that the factor with the highest mean ( $M = 3.41$ ,  $SD = 0.70$ ) is internal control (Internality). This dimension refers to questions like “Whether or not I get into a car accident depends mostly on being under the influence of alcohol” or “Whether or not I get into a car accident depends mostly on how often I drive at high speed”.

**Driver Risk Behavior (DBQ).** The highest mean was for the Violation dimension ( $M = 7.17$ ,  $SD = 4.02$ ), which refers to questions such as “Overtake a vehicle on the inside” or

“Become impatient with a slow driver in the outer lane and overtake on the inside”. The second highest mean was for the Errors dimension ( $M = 5.13$ ,  $SD = 3.09$ ), which refers to questions such as “Miss your exit on an interstate and have to make a lengthy detour” or “Forget where you left your car in a multi-level car parking”. The lowest mean was obtained in the Sensation Seeking dimension ( $M = .67$ ;  $SD = 1.87$ ), which refers to questions such as “Race oncoming vehicles for a one-car gap on a narrow or obstructed road”.

**Comparisons with Sociodemographic Data.** Regarding locus of control and different groups according to gender, through the independent t test ( $t(220) = -1.79$ ,  $p < .05$ ) it was possible to observe that men ( $M = 3.11$ ,  $SD = 0.77$ ) exhibit higher values than women ( $M = 2.92$ ,  $SD = 0.71$ ), in the Externality-Others dimension. Regarding driver risk behavior and different groups according to gender, no significant differences were found.

Table 1

*Means and standard deviation for the locus of control scale by sex*

	Sex				T Value
	Male (n = 85)		Female (n = 137)		
Dimensions /Factors	M	SD	M	SD	
Internality	3.41	.67	3.41	.73	-.06
Externality- Others	3.11	.77	2.92	.71	-1.79*
Externality- Chance	3.31	.91	3.30	.87	-.14

\* $p < .05$

Significant differences were found, using the t-test, in the means of the T-LOC factors according to age. Participants were divided into two age groups. The first group of 18 to 23 years, deemed inexperienced according to the study by Olandoski (2012), and the second group with participants aged 23 years and over. Significant differences were found [ $t(220) = 1.98$ ,  $p < .05$ ]

with drivers over 23 years of age presenting higher Externality-Others factors ( $M = 3.05$ ,  $SD = 0.73$ ) than younger drivers ( $M = 2.81$ ,  $SD = 0.73$ ), in other words, these drivers attribute the causes of accidents to other drivers, disengaging themselves from the responsibility.

Regarding the last five years, 35.1% of participants reported having been involved in an accident, 24.3% of which were involved in an accident once, and the remaining (10.8%) reported having been involved in accidents two to three times. Concerning the types of accidents, 89.7% mention property damage, while 10.3% report property damage, as well as minor and severe injuries.

Through the ANOVA test, no significant differences were found between Internality, Externality-Chance and Externality-Others, as well as with driver behavior according to type of accident.

**Correlations.** The Pearson coefficient revealed a negative relationship between the Externality-Others factor and lapses/distractions ( $r = -.130$ ,  $p = .026$ ), sensation seeking ( $r = -.127$ ,  $p = .029$ ) and errors ( $r = -.142$ ,  $p = .017$ ), which means that drivers who have fewer lapses and distractions, do not seek sensations and make fewer mistakes tend to attribute the causes of accidents to other drivers and environmental factors. The relationship between the Externality-Chance factor and lapses/distractions ( $r = -.129$ ,  $p = .027$ ), sensation seeking ( $r = -.175$ ,  $p = .004$ ), errors ( $r = -.130$ ,  $p = .027$ ) and violations ( $r = -.229$ ,  $p = .001$ ) was negative, indicating that drivers who have fewer lapses and distractions, do not seek sensations and make fewer mistakes tend to attribute the causes of accidents to chance, luck or fate. Regarding the Internality factor, there is a negative relationship between lapses/distractions ( $r = -.245$ ,  $p = .001$ ), sensation seeking ( $r = -.139$ ,  $p = .020$ ), errors ( $r = -.173$ ,  $p = .005$ ) unintentional violations ( $r = -.131$ ,  $p = .026$ ) and violations ( $r = -.227$ ,  $p = .001$ ), showing that drivers who have fewer lapses and

distractions, do not seek sensations and make fewer mistakes, unintentional violations and violations consider themselves more responsible for the accidents.

As for driver behavior, there is no significant relationship according to the variables number of traffic tickets, number of accidents, age, driving time, and weekly driving days. However, there is a statistically significant positive relationship between number of accidents and lapses/distractions ( $r = .195, p = .044$ ). Therefore, when drivers report higher scores of lapses/distractions, they are responsible for the increase of accidents.

With regard to locus of control, there is no significant relationship between the variables under study. Nevertheless, there is a statistically significant positive relationship between Externality-Others and the number of weekly driving days ( $r = .158, p = .009$ ). Therefore, it is possible to conclude that drivers with more weekly driving days are those who more often attribute the causes of accidents to other drivers and environmental factors.

### **Discussion and Conclusion**

This study aimed to assess whether driving behavior, particularly, behavior that may generate accidents, is conditioned by the type of traffic locus of control (T-LOC).

It was found that the locus of control of the Portuguese sample is mostly internal ( $M = 3.41$ ), which means that drivers have a natural tendency to attribute to themselves the responsibility for acts and consequences of driving, as in the study by Olandoski (2012). This may be explained by the fact that most of the sample had a college or high school education (59.9%), according to the conclusion found by Tebaldi and Ferreira (2004).

The external locus of control is directly related to causal factors, that is, not taking precautionary measures to avoid accidents (Holland et al., 2010; Özkan et al., 2006). In this study, although higher internality was observed, it was found that, in the sample that displayed

higher Externality-Others, this characteristic tends to increase with age and is more prevalent among men. Once again, these data are contrary to those obtained by Olandoski (2012), who concluded that the older the drivers are, the greater is their tendency for Internality, and that women possess a more External-Others locus of control. In any case, there are no other studies to assess whether the inconsistency is in the sample of this study, whether it is a cultural difference, since the study by Olandoski (2012) was conducted in Brazil, or whether it is due to another factor. For accidents with property damage and minor injuries, by relating them to the locus of control, there was a tendency to attribute the responsibility to chance/luck, a fact that, again, may be due to the high level of qualifications of the sample. Thus, the less severe the accident is, the greater will be the tendency to attribute its cause to luck, in other words, the greater the possibility for the existence of an External-Chance locus of control.

Regarding the orientation of the DBQ factors, the sample reported more Violations and Errors than any other dimension of the DBQ and the least frequent behavior was the Sensation Seeking dimension. Differences in driving behavior could not be assigned to gender or age. As mentioned previously, only Lapses are related to accidents, with no distinction as to the type of accident (property damage, minor injuries, serious injuries).

Driver risk behavior is complex and there are many variables that may influence this behavior, namely locus of control and even social context.

The example of studies conducted in other countries, although the realities are different, were the starting point for this work, since there is no Portuguese scientific literature on the judicial reality concerning driver risk behavior. Therefore, it is possible to characterize the sample as having a high internality factor, justified by the high level of educational qualifications. The locus of control orientation was also analyzed taking into account variables of

gender, age, number of years with a driving license, and number of accidents, having been found that External-Others locus of control is more prevalent in men and in individuals over 23 years of age, and, on the other hand, there was no relationship between the type of locus of control and the number of years with a driving license or traffic tickets received. In other words, driving experience and punishments do not seem to affect the orientation of the locus of control. It was clearly demonstrated that the sample reports the occurrence of a significant number of Violations and Errors, despite being a sample in which the number of serious accidents and driving disqualifications are poorly expressive. The collected data do not allow the establishment of any relationships between the sociodemographic variables and driving behavior, unlike different studies mentioned above (e.g., Balogun et al., 2012; Brites et al., 2008; Tebaldi & Ferreira, 2004). Furthermore, the study of the correlations of the three T-LOC factors with the five DBQ dimensions makes it possible to conclude that there is no relationship between driving behavior and type of control, regardless of the variable under analysis.

It is also interesting to note that the drivers of the sample only positively relate the Lapses dimension with the occurrence of accidents. Since it is a sample consisting mostly of inexperienced drivers, it is expected that they will not commit many infractions and Errors. According to literature, young people tend to commit fewer Errors, and the more driving experience the drivers have, the greater the probability of them infringing the rules of the road. Thus, it is not surprising that the sample associates only Lapses to accidents.

This was a pioneer study in Portugal. With future perspective, driver risk behavior could make a social contribution. The results of this research and other studies may assist in analyzing accidents, particularly, in expertise reports and personality evaluations for criminal cases (sentences), where psychology of justice aids the judicial system in judicial consideration and

criminal measures, as well as the support for prevention and crisis intervention campaigns and rehabilitation.

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Historic evolution and neuroanatomical changes in psychopathy: A comprehensive  
review

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## Abstract

Although psychopathy has been one of the most studied personality disorders/structures over the nineteenth and twentieth centuries, there has yet to emerge a unanimous definition, with rigorous and clear criteria. There are strong associations between psychopathy and traits of impulsivity, aggressiveness, and lack of empathy; however, the behavioral effects of neurobiological features associated with psychopathy have yet to be understood. Therefore, this article intends to present a comprehensive literature review, exploring the evolution of the definition of psychopathy, the inherent difficulties of the concept, as well as the neurobiological alterations commonly associated with this personality structure. Studies indicate that (a) psychopathy results from the interaction between biological and environmental factors, albeit several authors argue for its genetic basis; (b) neuroanatomical alterations in the ventromedial prefrontal cortex, anterior cingulate cortex, insula, ventral striatum, parahippocampal gyrus, and amygdalae were reported in psychopathic individuals. The etiology of psychopathic personality is multifactorial, with its main predisposition factors relating to genetic characteristics or psychobiological factors. Furthermore, various authors emphasize the importance of neuroanatomic alterations, based on evidence that psychopaths exhibit anomalies in areas and circuits that may predispose to antisocial behavior. In severe cases, psychopathy is associated with neurological dysfunctions, genetic predisposition, and psychosocial traumas in childhood. Further studies are needed in order to fill in the gaps noticed throughout this review. There is still a need for in depth knowledge of the psychobiological bases of psychopathy and the characteristics that most potentiate the maintenance of disruptive behaviors exhibited individuals with psychopathy, as well as a consistent definition of the construct.

*Keywords:* psychopathy, alterations, neurobiological, amygdala, prefrontal cortex

Historic evolution and neuroanatomical changes in psychopathy: A comprehensive  
review

Psychopathy is a personality structure that includes a set of psychopathic traits that may be evident from childhood (Kosson, Cytorski, Steuerwald, Neumann, & Walker-Matthews, 2002), being the product of complex interactions between genetic factors, biological predispositions, and social influences (Hare, 2001), being associated with antisocial behaviors (Kahn, Byrd, & Pardini, 2013), delinquency (Salihovic & Stattin, 2016), substance use (Andershed, 2018), violent offenses (Blair, 2013) and sexual offenses (Russell & King, 2017), murder (Häkkinen-Nyholm & Hare, 2009), and criminal recidivism (Walters, Knight, Grann, & Dahle, 2008).

Despite several decades of research the conceptualization of psychopathy continues to be debated (Skeem, Polaschek, Patrick, & Lilienfeld, 2011) being particularly divided between Hare's two-factor model as a set of affective, interpersonal, and behavioral traits grouped together (Hare, 1991) and the triarchic model of psychopathy (Patrick, Fowles, & Krueger, 2009), which advocates the presence of three separable traits: boldness, meanness, and disinhibition.

The psychopathic traits have been associated with changes in subcortical structures, such as the amygdala (Pardini, Raine, Erickson, & Loeber, 2014) for-hippocampal gyrus (Ermer, Cope, Nyalakanti, Calhoun, & Kiehl, 2013), and hippocampus (Ermer, Cope, Nyalakanti, Calhoun, & Kiehl, 2012).

This review intends to understand the evolution of conceptualizations of psychopathy and to compile the main neuroanatomic alterations in this personality structure.

### **Survey Methodology**

A comprehensive literature search was made in following databases: Google

Scholar, Cochrane, ProQuest, and ScienceDirect from 1941 to 2018 for retrieving the related studies. Data from the studies were extracted and evaluated according to the purpose of this article, which included publication in peer-reviewed journals. The eligibility of documents to be included was determined by two reviewers. Several search terms were used were to collect available literature that included psychopathy, conceptualization, concept, contributions, neuroanatomical, neuroimaging.

### **Historic evolution of the concept of psychopathy: Brief overview**

Etymologically, the term psychopathy derives from the Greek “psyché” – soul – and “pathos” – passion/suffering –, meaning, in other words, “mentally ill” (Santos, 2014) and, from the nineteenth century onward, it was used as the designation for all types of mental illness (Nunes, 2009).

Historically, the concept of psychopathy first emerged in 1809, when Pinel identified individuals who behaved atypically and aggressively as suffering from “mania without delirium” (Soeiro & Gonçalves, 2010). Later, in 1835, Pritchard, in his work “Treatise on Insanity and Other Disorders Affecting the Mind”, introduced the concept of moral insanity to designate individuals who frequently exhibited depraved and antisocial behaviors (Cantero, 1993). As a follower of the environmentalist school of thought, Pritchard also argued that in order for individuals to overcome this problem, they should be integrated in an appropriate environment (Cantero, 1993).

In 1857, psychopathy was referred to as the “madness of degenerates” by Morel, who argued that external agents, such as alcohol and toxins, predisposed individuals for *degeneration*, a concept that was expanded by Magnan when he introduced the idea of mental imbalance, described as the absence of harmonious coordination between nerve centers (Shine, 2000).

Even with these historic breakthroughs, the term psychopathy was only definitively introduced in 1888 by Koch, in his work “Psychopathic Inferiority”, published in 1891. Through this concept of “psychopathic inferiority”, the author defined psychopathy as an anomaly of character, the product of congenital aspects or mental illness (Soeiro & Gonçalves, 2010). Moreover, Kraepelin, in 1915, introduced the concept of “psychopathic personality” to describe the amoral or immoral functioning of a certain type of individuals (Lykken, 1995).

### **The contributions of Kurt Schneider**

Inspired by the works of Koch and Kraepelin, Schneider, in 1923, proposed the term “personality disorder” to describe a type of anomalous functioning marked by morbid perversion of feelings, habits, moral dispositions and impulses, without the presence of hallucinations (Gunn, 2003), with onset during childhood or adolescence (Hare, Cooke, & Hart, 1999) and which causes suffering to both the individual and society (Henrique, 2009). The author also discriminated between the concepts of mental illness and psychopathy, arguing that mental illness is not a disorder based on psychic traits (Cantero, 1993). Furthermore, Schneider classified psychopathic personalities into ten distinct categories, based on dispositional traits related to the study of personality and the experiences that contribute to their development: (1) Hyperthymic; (2) Depressive; (3) Insecure; (4) Fanatic; (5) Self-seeking; (6) Emotionally unstable; (7) Explosive; (8) Affectless; (9) Weak-willed; (10) Asthenic (Soeiro & Gonçalves, 2010).

### **The multiple approaches to the concept of psychopathy**

**The differential approach.** Advocating a differential perspective, Karpman (1941) distinguished two types of psychopathy: idiopathic or primary psychopathy, where individuals fail to exhibit fear, anxiety or empathy, and are less susceptible to

change; and symptomatic or secondary psychopathy, in which individuals do not inhibit fear or guilt, combining both hereditary and environmental factors.

Later, the same approach was developed by Blackburn and Coid (1998), who argued that the two types of psychopaths – primary and secondary – shared a propensity for high levels of impulsivity, but with certain distinctions. Primary psychopaths, although impulsive, hostile, and aggressive, are socially successful, as they exhibit high self-esteem and low levels of anxiety, and are able to conduct themselves instrumentally by formulating predictions and plans before acting. On the other hand, secondary psychopaths are characterized as hostile, irresponsible, impulsive, aggressive, as well as very socially anxious, dependent, distrustful and with low self-esteem. They also tend to behave more reactively than instrumentally. Multiple typological variations notwithstanding, impulsivity and the absence of guilt or remorse are regarded as the fundamental features of psychopathy (Moreira, Almeida, Pinto, & Fávero, 2014).

**The clinical approach.** In 1941, adopting a clinical approach, Harvey Cleckley (1988), in his work “The Mask of Sanity”, proposed 16 characteristics traits that would make up the profile of a psychopath: (1) superficial charm and high IQ; (2) absence of delusions and other signs of irrational thinking; (3) absence of nervousness and other psychoneurotic manifestations; (4) untrustworthiness; (5) deceit and dishonesty; (6) lack of remorse and shame; (7) inadequately motivated antisocial behavior; (8) poor judgement and inability to learn from experience; (9) pathological egocentricity and inability to love; (10) general poverty in affective reactions; (11) specific loss of insight; (12) unresponsiveness in interpersonal relationships; (13) fantastic and unappealing behavior under the influence of alcohol and sometimes not; (14) seldom executed suicide threats; (15) impersonal, trivial and poorly-

integrated sex life; (16) inability to adhere to any life plan. The work of Cleckley (1988) provided invaluable contribution on a clinical level, as it led to the most recent definitions of psychopathy and the clinical criteria developed by the author are the basis of instruments used to assess personality, such as the *Minnesota Multiphasic Personality Inventory* (MMPI).

Cleckley (1988) describes a psychopath as an individual who is capable of conducting themselves with enough good judgment and logical reasoning to cause good first impressions. However, their irresponsible behavior and immunity to the suffering of others in disturbing situations are still able to be perceived. These features, aided by their egocentricity, leads them to experience affective relationships with muted intensity. Psychopaths are also adept liars and fail to feel remorse when caught in a lie. Furthermore, they are able to predict the consequences of their behavior, although they fail to feel guilty about it and are unable to learn from mistakes, despite a high IQ. The extravagant and unfathomable behavior commonly manifested by psychopaths is often the product of alcohol abuse, which is frequently observed in these individuals. Finally, the punitive practices often applied to psychopaths fail to create change in their behavior.

**The categorical approach.** In a categorical approach, Robert Hare (1970) describes psychopaths as being incapable of displaying genuine concern or empathy for others and exhibiting superficial sincerity, which makes them adept at manipulation in order to satisfy their own desires and deceiving others into thinking they used their innocence or motivation for change. Hare (1991) argues that psychopathy is comprised of two correlated factors: the first related to clinical aspects that define the personality disorder, and the second associated with behavioral aspects characteristic of an antisocial lifestyle. Individuals should, thus, exhibit characteristics

of both factors in order to be classified as psychopaths (Soeiro & Gonçalves, 2010). The author then used this conceptualization to develop a two-factor scale to evaluate psychopathy – the *Psychopathy Checklist* (PCL). This scale is divided into two factors, with Factor 1 representing interpersonal and affective characteristics, and Factor 2 pertaining to antisocial and impulsive characteristics (Hare, 1980).

Following the work of Hare (1991) and Hart, Cox, and Hare (1995), Cooke and Michie (2001) argued for a three-factor conceptualization of psychopathy, rather than two factors. The first factor described an arrogant and deceitful interpersonal style, the second represented a deficient affective experience, and the third indexed an impulsive and irresponsible behavioral style. The definition of psychopathy would, therefore, encompass three distinct features: interpersonal, affective, and behavioral (Cooke e Michie, 2001).

Nevertheless, the shift from the two-factor model by Hare (1991) to the three-factor model by Cooke and Michie (2001) instigated a controversy as to the relevance of the role of antisocial behavior in the definition of psychopathy. Whereas Hare (1991) regarded antisocial behavior as a symptom of psychopathy, Cooke and Michie (2001) believed it to be a consequence. Consequently, the surrounding discussions concentrated on removing the antisocial behavior indicators, maintaining only the behavioral facets (Soeiro & Gonçalves, 2010).

Later on, Hare (2003) developed an alternative to the three-factor model, which included the addition of a fourth factor associated with antisocial behavior. Cooke, Michie, Hart, and Clark (2004) maintained that deviant and antisocial behavior should be considered a consequence, and not a symptom, in the definition of psychopathy. Thus, Hare reviewed the PCL and put forth the *Psychopathy Checklist-Revised* (PCL-R), comprising 20 items, with scores varying from 0 to 40 points,

where individuals scoring 30 or above are considered psychopaths (Filho, Teixeira, & Almeida, 2014). In this scale, psychopathy is defined as a grouping of clinical personality traits and socially deviant behavioral traits. Accordingly, the PCL-R comprises four facets: *Facet 1* “Interpersonal” (items [1] Glibness/Instability/Superficial Charm; [2] Grandiose Self-worth; [3] Pathological Lying; [5] Manipulative Style); *Facet 2* “Affective” (items [6] Lack of Remorse or Guilt; [7] Shallow Affect; [8] Callousness/Lack of Empathy; [16] Failure to accept responsibility for their actions); *Facet 3* “Lifestyle” (items [3] Need for stimulation/Propensity for boredom; [9] Parasitic lifestyle; [13] Absence of realistic goals; [14] Impulsivity; [15] Irresponsibility); and *Facet 4* “Antisocial” (items [10] Poor Behavioral Control; [12] Early Behavioral Problems; [18] Juvenile Delinquency; [19] Revocation of Conditional Release; [20] Criminal Versatility. Items 11, “Promiscuous Sexual Behavior”, and 17 “Several Short-term intimate relationships” do not fall into any of the above facets.

Keeping with the perspective of antisocial behavior as simply a consequence of psychopathy, with no direct manifestation on it, Cooke, Hart, Logan, and Michie (2012) attempt their own definition of the concept and develop the comprehensive assessment of psychopathic personality (*Comprehensive Assessment of Psychopathic Personality – CAPP*). Aiming to discriminate in terms of diagnosis, this instrument is based on a model that distinguishes the domains of psychopathy from its symptoms, classifying them into six distinct domains: (1) Attachment Domain; (2) Behavioral Domain; (3) Cognitive Domain; (4) Dominance Domain; (5) Emotional Domain; (6) and the Self Domain (Soeiro & Gonçalves, 2010).

**The dimensional approach.** Patrick et al. (2009), adopting a dimensional approach, put forth the Triarchic Psychopathy Model, which proposes three different

phenotypical components: disinhibition, meanness, and boldness. Disinhibition pertains to impulse control deficits, predisposition to alcohol and drug problems, and inability to anticipate negative consequences, deriving from characteristics such as irresponsibility, impatience, and impulsivity. Meanness relates to characteristics such as insensitivity, rebelliousness, cruelty and lack of empathy and significant attachments. Lastly, boldness encompasses features such as sensation seeking, ability for persuasion, and low reactivity to stress.

Under this dimensional approach, the cause of this personality disorder/structure cannot be attributed to a single risk factor, but rather the combination of multiple factors that may predispose individuals to antisocial behavior (Holmes, Slaughter, & Kashani, 2001), such as genetic predisposition, intrauterine exposure to alcohol and other drugs, parental neglect, and learning disabilities (Del-Ben, 2005).

### **Neuroanatomical Changes in Psychopathy**

The predisposition for antisocial behavior displayed by individuals with psychopathy is reported to have underlying brain anomalies/impairments (Moreira et al., 2014). Specifically, the emotional deficits that are a feature of psychopathy, such as the inability to detect the emotions of others (Santos, 2014), are associated with dysfunctions in the prefrontal cortex and in the limbic system (Kiehl et al., 2001; Santos, 2014). Modifications in these regions may originate mutations in personality, such as immature behavior or difficulty in impulse control, given that the prefrontal cortex is responsible for executive functions, as well as the organization, coordination and control of various cognitive functions (Santos, 2014).

Furthermore, several studies have confirmed the link between impulsive behavior, aggressiveness, and prefrontal lesions (Del-Ben, 2005; Yang, Raine, Lencz,

Bihrlé, LaCasse, & Colletti, 2005). The classic case of Phineas Gage, for example, is a prime illustration of changes in social behavior after a lesion to the prefrontal cortex. Gage suffered a workplace accident, in which an iron rod perforated the base of his skull and punctured the anterior region of his brain. Following the accident, Gage began to experience changes in his personality and conduct, often engaging in inappropriate and antisocial behavior (Iria & Barbosa, 2008).

**Findings from neuroimaging research.** Aiming to explore the brain factors linked to psychopathy, Pridmore, Chambers, and McArthur (2005) conducted a neuroimaging study whose findings revealed a decrease of prefrontal grey matter, a decrease of posterior hippocampal volume, and an increase of corpus callosum white matter. Another study (Tschernegg et al., 2015) examined structural manifestations of impulsivity traits focusing on brain areas associated with delay discounting. The results showed positive correlations between delay discounting and grey matter volume in the striatum, as well as grey matter volume in the caudate.

Using connectivity analyses in both structural and functional magnetic resonance imaging, van den Bos, Rodriguez, Schweitzer, and McClure (2014) examined the relationship between distinct corticostriatal networks involved in impulsive choices. The findings suggested that distinct pathways of the striatum were differentially linked to delay discounting, which is the process of devaluing results that take place in the future. Specifically, the structural and functional connectivity between the striatum and the lateral prefrontal cortex was linked to increased patience, while the connectivity between subcortical regions and the striatum exhibited a relationship with increased impulsivity.

The findings from various functional neuroimaging studies point towards a relationship between impulsive choices and the activation of subcortical and cortical

areas of the reward system, such as the ventral striatum, including the nucleus accumbens, the medial prefrontal cortex, the dorsolateral prefrontal cortex, as well as the activation of the posterior cingulate cortex during delay discounting (Ballard & Knutson, 2009; Kable & Glimcher, 2007; McClure, Laibson, Loewenstein, & Cohen, 2004). Focusing on delay discounting, an fMRI study by Marco-Pallarés, Mohammadi, Samii, and Münte (2010) found that two distinct networks were involved in the decision making process of choosing between a smaller, immediate monetary reward vs. a larger, delayed reward. One network was engaged when decisions were made regarding rewards and delays of subjective equal value, whereas the other network was activated when the value of either the immediate reward or the delay outweighed its alternative. When decisions were near the point of indifference, the only region activated was the posterior medial frontal cortex. Nonetheless, in the case of trials with clear preference for immediate or delayed rewards, there was activation of a network comprising the ventromedial prefrontal cortex, the anterior cingulate cortex, the insula, the ventral striatum, the parahippocampal gyrus, and the amygdala (Marco-Pallarés et al., 2010).

Similarly, two fMRI studies by Mitchell, Schirmer, Ames, and Gilbert (2010) revealed that individuals exhibited less activity in brain areas associated with introspective self-reference – such as the ventromedial prefrontal cortex – when predicting how much they would enjoy a future event, than when they predicted their enjoyment of present events. Furthermore, the authors also found that the magnitude of the decrease in the ventromedial prefrontal cortex predicted the extent to which participants made decisions several weeks later. These findings lead to the conclusion that short-term decisions may be the product of an inability to imagine the subjective experience of one's future self, since the ventromedial prefrontal cortex is involved in

the simulation of future events from a subjective perspective. Furthermore, in another fMRI study, Hakimi and Hare (2015), using an impulsive choice monetary task, explored whether the neural representation of an imagined primary reward is able to predict the extent to which the value of delayed monetary payments is discounted. They observed a correlation between reduced discounting and increased activity of the ventromedial prefrontal cortex during the imagined reward.

There is also heavy influence of other prefrontal areas on impulsive choices. As a specific example, the activity in the dorsolateral prefrontal cortex and its connections with the ventromedial prefrontal cortex are associated with delay discounting. Similarly, a study by Hare, Hakimi, and Rangel (2014) on the link between neural activity and individual differences in the discounting of future rewards found a similar set of neurobiological mechanisms, for tasks that involve postponing gratification in dietary and monetary temporal choice processes. This study also revealed increased activity in the left dorsolateral prefrontal cortex when the delayed option was selected, involving greater self-control, as well as increased connectivity from the left dorsolateral prefrontal cortex to the ventromedial prefrontal cortex self-control, widely associated with the computation of the stimulus value, in the moment the choice was made (Bartra, McGuire, & Kable, 2013). These changes in neural activity were particularly salient in trials where participants chose the delayed reward.

Research has shown that reward-based and goal-oriented decisions strongly rely on the activity of the striatum and its interactions with other cortical networks. In the case of delay discounting, a study by Wittmann, Leland, and Paulus (2007) reported that when participants preferred the delayed reward over the immediate reward, various brain areas, including the left caudate nucleus, exhibited a correlation between discounting and brain activation for the contrast of intervals with delays of

less than 1 year and delays of 1 year or more.

Comparing neural and behavioral correlates for intertemporal valuation of real and hypothetical monetary gains and hypothetical losses, Bickel, Pitcock, Yi, and Angtuaco (2009) found no significant differences between the levels of discounting in all three conditions of their study: 1) gains of \$100 in real cash; 2) gains of \$100 in hypothetical cash; and 3) losses of \$100 in fictitious cash. Nonetheless, following an initial analysis of the fMRI data, they observed a significant signal change in limbic areas, specifically the anterior cingulate cortex, the striatum, the posterior cingulate cortex, as well as in areas linked to executive functioning, namely the lateral prefrontal. These effects did not persist, however, after a multiple comparisons correction (Bickel et al., 2009).

Summing up, the processing of gains and losses entails the activation of a complex neural network, which includes the occipital, parietal, and prefrontal cortices, and thus indicating that, regardless of the results, different economically relevant behaviors are supported by the same brain structures (Faralla et al., 2015). In addition, the processing of immediate and delayed rewards seems to engage two distinct neural circuits. Concretely, the circuit activated when an immediate option (gain/loss) is chosen involves regions of the emotional system, specifically the posterior cingulate cortex and the medial prefrontal cortex; whereas the selection of delayed choices activates occipital and parietal cortices, in conjunction with the lateral and dorsolateral prefrontal cortices.

**Neuroimaging research on emotional processing.** As an emotion that characterizes human beings, fear possesses a strong protective component, as it is responsible for impulse inhibition in dread of potential consequences (Lykken, 1995). The absence or reduction fear, which is a feature of psychopathy, highlights the

importance of proper functioning of the amygdala (limbic system), since this brain structure is responsible for producing responses to fear and negative emotions (Blair, 2006). The findings from neuroimaging studies indicate a reduction of the volume of the amygdala, as well as abnormalities in other limbic structures (Kent, et al., 2001; Weber, Habel, Amunts & Schneider, 2008; Yang, Raine, Narr, Colletti, & Toga, 2009).

Thus, individuals with psychopathy exhibit emotional deficits and difficulty in perceiving emotions in others or feeling sensitized by the emotions of others, which impacts their attitudes and behaviors (Moreira et al., 2014; Santos, 2014). Since these individuals do not present an increase in brain activity, they fail to respond to emotional situations. Nonetheless, they exhibit activation of brain areas associated with language, as if analyzing images in linguistic terms (Kiehl et al., 2001).

**Findings from electrophysiological research.** With regard to electrophysiological findings, a study by Blackburn, Mason, Hoeksma, Zandstra and El-Deredy (2012) examined the correlates of intertemporal decision making and found the *N100/Early Posterior Negativity* and the *Frontal Related Negativity* to be relevant components of event related potentials (ERP). Furthermore, focusing on the FRN component (*Feedback Related Negativity*), a study by Qu, Huang, Wang, and Huang (2013) sought to understand how delayed rewards and losses affect brain activity, in a simple game task. The results revealed that the FRN component was elicited more negatively solely in gains conditions where the reward was delayed. These findings thus raise the possibility that, in an initial evaluation phase, delay discounting and the signal effect may be coded in the FRN. Moreover, a LORETA source location for the FRN component showed significantly higher electrical brain activity in the left fusiform gyrus and the right superior temporal gyrus for monetary

losses, when comparing with monetary gains, after incorrect Go/No-Go responses (De Pascalis Varriale, & D'Antuono, 2010).

### **Conclusions**

Psychopathy has been studied over the last few centuries, and it has been attributed several conceptualizations, from Pinel's (1809) "undreamed-of" frenzy to the current conceptualization proposed by Cleckley (1988). It is a personality disorder whose main characteristics include profound affective deficits, as well as disrespect for other individuals and social norms (Porter, 1996).

The initial approach to psychopathy was categorical (Hare, 1970), wherein individuals were labeled with this personality disorder using a two-factor scale – the Psychopathy Checklist (PCL), with one factor being associated with interpersonal and affective characteristics, and the other factor relating to antisocial and impulsive characteristics (Hare, 1980).

Nonetheless, the most recent and prevalent approach to psychopathy is the dimensional perspective proposed by Patrick et al. (2009), according to which the personality characteristics theoretically related to the construct are distributed, on a continuum, throughout the general population, which means that all individuals may exhibit them, to a greater or lesser degree. This model, designated Triarchic Psychopathy Model, argues for the existence of three distinct phenotype components: disinhibition, boldness, and meanness (Patrick et al., 2009).

The causes of psychopathy are innumerable and may be based on several factors. Some researchers advocate genetic variables as the main predisposing factors psychopathy (Larsson, Andershed, & Lichtenstein, 2006), while others assign responsibility to psychobiological factors (Iria & Barbosa, 2008). However, several authors also emphasize the relevance of neuroanatomical changes, which are based on

the perspective that individuals with psychopathy exhibit brain abnormalities that predispose individuals to antisocial behavior (Moreira et al., 2014).

Individuals with psychopathy tend to exhibit emotional poverty, inability to understand the emotions of others, as well as immature attitudes and difficulty to control impulses (Santos, 2014), which are associated with dysfunctions in the prefrontal cortex and the limbic system (Kiehl et al., 2001). These dysfunctions are also responsible for the absence of fear, indicating the importance of the amygdala for producing responses to fear and negative emotions (Blair, 2006). Specifically, in healthy individuals, fear and other negative emotions elicit an increase in amygdala activation, whereas in individuals with psychopathic personality traits, this does not occur (Jones, Laurens, Herba, Barker, & Viding, 2009; Marsh et al., 2008).

Neuroimaging studies have revealed a decrease in prefrontal gray matter, decreased hippocampal volume, and increased white matter (Pridmore, Chambers, & McArthur, 2005). In severe cases (e.g., sadists and serial killers), psychopathy is associated with three main factors: neurological dysfunctions, genetic predisposition, and socio-psychological traumas in childhood (Almeida, 1999). However, this does not mean that all individuals who suffer some form of abuse or trauma in childhood become psychopaths, since individuals with mild psychopathy did not report the experience of traumatic situations in childhood (Moreira et al., 2014).

Although the construct of psychopathy has been studied and developed over the past few decades, it still remains a booming field. There is still a need for in depth knowledge of the psychobiological bases of psychopathy and the characteristics that most potentiate the maintenance of disruptive behaviors exhibited individuals with psychopathy, as well as a consistent definition of the construct.

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